

November 17, 2008

VIA OVERNIGHT DELIVERY

Ms. Amelia M. Wagner
United States Environmental Protection Agency
Region II
290 Broadway
17th Floor
New York, NY 10007-1866

Re: Newark Bay Study Area -- Remedial Investigation Work Plan – Sediment Sampling and Source Identification Program Information – Apex Chemical Company, Inc., Elizabeth, New Jersey Site.

Dear Ms. Wagner,

As a follow up to evidence presented by Tierra Solutions Inc. (Tierra) for the Newark Bay Study Area (NBSA) regarding Potentially Responsible Parties (PRPs), we are providing additional information from the Remedial Investigation Work Plan (RIWP) Phase I & II sediment investigation concerning the Apex Chemical Company, Inc. Site (the “Site”).

As you are aware, Tierra presented evidence regarding the Site in our meeting with USEPA on March 27, 2008, and provided you with a Data Extraction Form and evidentiary exhibits. The Site, located at 200 South First Street, Elizabeth, New Jersey, is situated on approximately 2.64 acres of land. It is bounded to the south and east by the Elizabeth River, less than 1,000 feet from its confluence with the Arthur Kill. The detailed and complex corporate history relevant to the Site is set forth in the Data Extraction Form submitted by Tierra to USEPA on March 27, 2008, with the current status being that Apexical, Inc. (f/k/a).

Apex Chemical Corporation of S.C., Inc., ultimately succeeded to the liabilities of the former Apex Chemical Company, Inc., Emil Baer, Inc., and Apex Chemical Corp. (NJ) [hereafter, collectively “Apex”], with the Site operations having been relocated to South Carolina during the period of 1994 through 1999. NJDEP Case Manager, Alphonso Inserra confirmed (in a November 29, 2007 phone conversation) that Apexical, Inc. (f/k/a Apex Chemical Corporation of S.C., Inc.) had taken over responsibility for Site remediation obligations for the former Emil Baer, Inc.

As described in the Data Extraction Form previously submitted by Tierra to USEPA, Apex’s operations at the Site included manufacturing a wide range of specialty chemicals, including flame retardants, finishing agents and dyeing auxiliaries for use in textile, leather, paper, rubber, printing ink and fur dyeing industries. Its manufacturing operations at the Site consisted of batch blending of raw materials into customized chemical products that were drummed and stored,

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prior to shipment to primarily textile mill customers. The process wastewaters flowed to floor drains that in turn discharged to the City of Elizabeth's (the "City") sanitary sewer line. Laboratory sink drains, non-contact cooling water, and sanitary wastes were also discharged to the City sewer. Prior to 1957, process wastewaters were discharged directly to the Elizabeth River through the City sewer system. The CSO Outfall #35 is located at the base of 3rd and South 1st Streets. In 1957, the City completed the construction of an Easterly Interceptor Sewer (the "Easterly Interceptor") to divert discharges to the Joint Meeting of Essex and Union Counties ("JMEUC") treatment plant through a combined sewer system. Apex reported in a 1977 JMEUC Industrial Waste Questionnaire that process wastewater was neutralized prior to discharge to the City sewer. It is not known if neutralization was occurring prior to 1977.

The following hazardous substances and materials (without limitation) have been formulated, utilized, handled or disposed of by Apex at the Site in its manufacturing operations:

- Maleic Anhydride (United States Environmental Protection Agency (USEPA) Class III Organic Chemical associated with the formation of dioxin)
- Phenol (USEPA Class III Organic Chemical associated with the formation of dioxin)
- Trichlorobenzene (USEPA Dioxin Precursor Chemical associated with the formation of dioxin)
- Decabromodiphenyl Oxide (a/k/a Decabromodiphenyl Ether)+
- Octabromodiphenyl Oxide (a/k/a Octabromodiphenyl Ether)+
- Pentabromodiphenyl Oxide (a/k/a Pentabromodiphenyl Ether)+
- Ammonium Bromide
- Ammonium Chloride
- Benzene
- Benzoic Acid
- Benzyl Chloride
- Boron Trifluoride
- Brominated Phthalic Acid+
- Epichlorohydrin
- Dodecylbenzene
- Chloroform
- Alky Phenol
- Perchloroethylene
- Phosphoric Anhydride
- Phosphorus Pentoxide
- Antimony Trioxide
- Antimony Compounds
- Formaldehyde
- Ethyl Hexanol
- Ethylene Glycol
- Glycol Ethers
- Isopropanol
- Methanol

- Mineral Spirits
- Xylene

A plus symbol (+) denotes a specific hazardous substance that is classified as either brominated diphenyl ether and/or a brominated phthalic acid derivative.

Brominated diphenyl ethers and brominated phthalic acid derivatives are two of five major classes of brominated flame retardants. The term polybrominated diphenyl ethers ("PBDEs") refer to the three commercial mixtures: decabromodiphenyl ether ("DBDE"), octabromodiphenyl ether ("OBDE"), and pentabromodiphenyl ether ("pentaBDE"). PBDEs are structurally similar to dioxins and PCBs. Like dioxins and PCBs, due to their relatively low reactivity and high hydrophobicity, PBDEs are persistent environmental substances, and for certain congeners, bioaccumulative.

Four patents were filed between 1972-1990 dealing with the flame-resistance/flame retardant of products. Some of the chemicals used on site to attain this improvement in textiles are classified as USEPA Class III Organic Chemicals associated with the formation of dioxin. They include tetrabromophthalic anhydride, tetrachlorophthalic anhydride and 1-phenol-2-sulfonic formaldehyde condensate. In addition, the publication *Pesticide Handbook-Entoma 1970* lists Apex Chemical Co. at 200 S. Front St. in Elizabethport, NJ as a manufacturer of numerous products containing paradichlorobenzene, pyrethrins, and naphthalene. Paradichlorobenzene is a USEPA Dioxin Precursor Chemical associated with the formation of dioxin.

Wastewater effluent samples collected from 1977 to 1991 contained the following hazardous substances at the levels indicated:

- Chloroform up to 34.2 ppb
- 1,2,4-Trichlorobenzene up to 12.3 ppb (USEPA Class III Organic Chemical associated with the formation of dioxin)
- Bis(2-ethylhexyl)phthalate up to 44.6 ppb
- 1,4-Dimethylphenol up to 3.8 ppb
- 4-Methylphenol up to 2 ppb
- 1,2-trans-Dichloroethylene up to 1.6 ppb
- Ethylbenzene up to 3.1 ppb
- Nitrobenzene up to 13.6 ppb
- Sulfate up to 40,000 ppb
- Toluene up to 1.1 ppb
- Antimony up to 0.436 ppm
- Cadmium (total) up to 0.01 ppm
- Chromium (total) up to 0.02 ppm
- Copper (total) up to 0.09 ppm
- Nickel (total) up to 0.05 ppm
- Lead (total) up to 0.10 ppm
- Zinc (total) up to 0.26 ppm

In 1997, Apex notified NJDEP of its cessation of more than 90% of its operations at the Site, thereby triggering obligations under ISRA, Case No. 97149. As of September 28, 1999, all production and lab activities had ceased at the Site. Between 1997 and 2001, environmental investigations and remediation were conducted at the Site. Total petroleum hydrocarbons ("TPH") were detected in excess of 10,000 ppm in soil beneath warehouse floors. Antimony was found in Site soil, above cleanup criteria. Apex argued that antimony was a constituent of historic fill, but NJDEP disagreed and required the delineation of antimony. During a remediation investigation conducted during 1999-2001, TPH were detected up to 12,800 ppm, while antimony was identified at 758 ppm.

The remediation of contaminated soils at the Site consisted of a combination of soil excavation/removal, asphalt capping, and proposed deed restrictions/notices for the remaining uncapped areas exhibiting soil concentrations above cleanup criteria. Natural attenuation and a Classification Exception Area are proposed to address the priority pollutant metals detected in the groundwater above NJDEP Groundwater Quality Standards. Approval for deed recordation and a request for No Further Action are pending with NJDEP.

Emil Baer notified NJDEP of its intent to sell the Elizabeth property to 200 South First Street, LLC in April 2002 and submitted a Remediation Agreement Application. A Remediation Agreement was entered into by NJDEP and Emil Baer, Inc. c/o Apex Chemical Corp., Spartanburg, South Carolina in May 2002. Apexical has subsequently taken over responsibility for Site remediation obligations for the former Emil Baer, Inc.

A preliminary investigation at the Site was conducted in 1996, in which five soil samples were collected and analyzed for volatile compounds and metals. Soil samples were collected at a depth of 2 feet, approximately 1 foot above the water table. The following hazardous substances were detected in the soil at the levels indicated:

- Chloroform up to 29 ppb
- Ethyl Benzene up to 10 ppb
- Methylene Chloride up to 20 ppb
- Tertiary Butyl Alcohol up to 42 ppb
- Tetrachloroethene up to 950 ppb
- Trichloroethene up to 79 ppb
- Toluene up to 2.6 ppb
- Total Petroleum Hydrocarbons (TPH) up to 430 ppm
- Xylenes up to 23 ppb
- Arsenic up to 25 ppm
- Barium up to 1,210 ppm
- Cadmium up to 9 ppm
- Chromium up to 63 ppm
- Lead up to 1,730 ppm
- Mercury up to 5.3 ppm
- Selenium up to 0.44 ppm
- Silver up to 5.5 ppm

Soil sampling and analysis was performed during remedial investigations conducted from 1999 to 2001. The following hazardous substances were detected in Site soils at the levels indicated:

- 1,2,4-Trichlorobenzene up to 13,800 ppb (USEPA Class III Organic Chemical associated with the formation of dioxin)
- Chlorobenzene up to 22,400 ppb (USEPA Dioxin Precursor Chemical associated with the formation of dioxin)
- 1,4-Dichlorobenzene up to 1,900 ppb (USEPA Dioxin Precursor Chemical associated with the formation of dioxin)
- Antimony up to 758 ppm
- Arsenic up to 128 ppm
- Beryllium up to 1.64 ppm
- Cadmium up to 8.48 ppm
- Chromium up to 123 ppm
- Copper up to 237 ppm
- Lead up to 1,000 ppm
- Mercury up to 17.7 ppm
- Nickel up to 58.8 ppm
- Selenium up to 5.75 ppm
- Silver up to 2.32 ppm
- Zinc up to 618 ppm
- 1,2-Dichloroethene up to 471,000 ppb
- 1,1-Dichloroethene up to 2,020 ppb
- 2,6-Dinitrotoluene up to 1,010 ppb
- Ethylbenzene up to 894 ppb
- Acenaphthene up to 640 ppb
- Anthracene up to 1,950 ppb
- Benzo(a)anthracene up to 4,800 ppb
- Benzo(b)fluoranthene up to 5,070 ppb
- Benzo(a)pyrene up to 6,120 ppb
- Benzo(g,h,i)perylene up to 5,510 ppb
- Bis(2-ethylhexyl)phthalate up to 790 ppb
- Bis(2-chloroisopropyl)ether up to 930 ppb
- Chrysene up to 6,710 ppb
- Dibenzo(a,h)anthracene up to 2,720 ppb
- Fluoranthene up to 13,400 ppb
- Naphthalene up to 3,100 ppb
- n-Nitrosodiphenylamine up to 10,000 ppb
- Indeno(1,2,3-cd)pyrene up to 5,640 ppb
- Phenanthrene up to 11,400 ppb
- Pyrene up to 13,300 ppb
- Toluene up to 2,660 ppb
- Tetrachloroethene up to 205,000 ppb

- Trichloroethene up to 176,000 ppb
- Tetrachloroethylene up to 3,980 ppb
- TPH up to 12,800 ppm
- Xylenes up to 38,900 ppb

Despite the extensive use of PBDEs at the Site, they were not sampled for during remedial investigation activities. Despite the use of dioxin-related compounds, and the observed soil contamination at the Site, dioxins were not sampled for during remedial investigation activities.

Phase II Newark Bay sediment sampling and analysis conducted October to December 2007, have identified numerous hazardous substances associated with the Apex Site in Elizabeth River sediments immediately adjacent to the Site and its CSO discharge location.

- Antimony up to 444 ppm* (Five highest concentrations in Phase I and II sampling located in this sediment core)
- 2,3,7,8-TCDD up to 223 pg/g
- Dioxin TEQ up to 546 pg/g
- OCDD up to 176,000 pg/g* (Two highest concentrations in Phase I and II sampling located in this sediment core)
- 2,4-D up to 280 ppb
- 2,4,5-T up to 53 ppb
- 2,4,5-TP up to 320 ppb
- Chlorobenzene up to 12 ppb
- 1,2-Dichlorobenzene up to 14 ppb
- 1,4-Dichlorobenzene up to 26 ppb
- Arsenic up to 30 ppm
- Barium up to 447 ppm
- Cadmium up to 13 ppm
- Chromium up to 309 ppm
- Copper up to 570 ppm
- Cyanide up to 6.7 ppm
- Lead up to 1,000 ppm
- Manganese up to 366 ppm
- Mercury up to 11.7 ppm
- Nickel up to 147 ppm
- Silver up to 11 ppm
- Thallium up to 0.29 ppm
- Zinc up to 826 ppm
- Bis(2-ethylhexyl)phthalate up to 48,000 ppb
- TPH up to 6,400 ppm
- Fluoranthene up to 42,000 ppb
- Fluorene up to 12,000 ppb
- Pyrene up to 26,000 ppb
- Phenanthrene up to 50,000 ppb
- Naphthalene up to 21,000 ppb

* An asterisk (*) denotes the maximum value detected in the Phase I & II study.

The information presented in the attached chart identifies data from NBSA Phase I & II sediment sampling and analysis, as well as evidence cited in the Data Extraction Form ("DEF") submitted on March 27, 2008. Samples highlighted in yellow on the attached chart represent values detected in the highest 20% range for all samples analyzed in the NBSA Phase I and II Study, while orange highlighting depicts values in the 5% range. Red highlighting denotes the highest value found within the study group for all samples analyzed in NBSA Phase I & II data.

In light of the previous evidence, supplemented by the most recent data identified in Remedial Investigation sampling, it is clear that hazardous substances from the Apex Chemical Corp., Inc. site have been discharged to the Newark Bay Study Area.

Should you have any questions on the information presented in this letter or the enclosed chart, please do not hesitate to contact us.

Sincerely,
The Intelligence Group



Dennis P. Farley

Enclosures

cc: Elizabeth Butler – EPA
 Sara Galley, Esq. – Maxus
 Paul Bluestein – Tierra Solutions, Inc.
 Paul W. Herring, Esq. – Andrews Kurth

APEX CHEMICAL COMPANY, INC.

NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Antimony	Units	Result Qualifiers	2,3,7,8-TCDD	Units	Result Qualifiers	Total TCDD	Units	Result Qualifiers	Dioxin TEQ	Units	Result Qualifiers
Phase II - Sample Location 083				758 0.436 0.358	mg/kg		NA			NA			NA		
ER02SED083G-01	0	0.5	ft	440	mg/kg	N, *, JL	39.7	pg/g	-	168	pg/g	-	122	pg/g	-
ER02SED083G-02	0.5	1.5	ft	166	mg/kg	N, *, JL	49.8	pg/g	-	256	pg/g	-	546	pg/g	-
ER02SED083G-03	1.5	2.5	ft	136	mg/kg	N, *, JL	223	pg/g	-	412	pg/g	-	389	pg/g	-
ER02SED083G-04	2.5	3.5	ft	444	mg/kg	N, *, JL	81.3	pg/g	-	363	pg/g	-	195	pg/g	-
ER02SED083G-05	3.5	5.5	ft	31.8	mg/kg	N, *, JL	4.99	pg/g	-	9.23	pg/g	-	12.7	pg/g	-
ER02SED083G-06	5.5	7.5	ft	-	mg/kg	UJL	-	pg/g	UJ	-	pg/g	-	0.685	pg/g	-
ER02SED083G-07	7.5	9.5	ft	-	mg/kg	UJL	-	pg/g	UJ	0.355	pg/g	-	0.474	pg/g	-
				Top 5 data points											

Sample Name	Depth Start	Depth End	Depth Units	Antimony	Units	Result Qualifiers	2,3,7,8-TCDD	Units	Result Qualifiers	Total TCDD	Units	Result Qualifiers	Dioxin TEQ	Units	Result Qualifiers
Phase II - Sample Location 084				758 0.436 0.358	mg/kg		NA			NA			NA		
ER02SED084D-01	0	0.5	ft	-	mg/kg	N,UJL	27.3	pg/g	-	80.7	pg/g	-	60.5	pg/g	-
ER02SED084D-02	0.5	1.5	ft	-	mg/kg	N,UJL	24.8	pg/g	-	93.1	pg/g	-	72	pg/g	-
ER02SED084D-03	1.5	2.5	ft	-	mg/kg	N,UJL	26.4	pg/g	-	113	pg/g	-	79.5	pg/g	-
ER02SED084D-04	2.5	3.5	ft	-	mg/kg	N,UJL	17.6	pg/g	-	69.5	pg/g	-	49.3	pg/g	-
ER02SED084D-05	3.5	5.5	ft	-	mg/kg	N,UJL	13.2	pg/g	-	67.4	pg/g	-	42.4	pg/g	-
ER02SED084D-06	5.5	7.5	ft	-	mg/kg	N,UJL	23.1	pg/g	-	23.1	pg/g	-	66.7	pg/g	-
ER02SED084D-07	7.5	9.5	ft	-	mg/kg	N,UJL	0.287	pg/g	G	1.61	pg/g	-	1.57	pg/g	-
ER02SED084D-08	9.5	11.5	ft	-	mg/kg	N,UJL	-	pg/g	U	-	pg/g	-	0.461	pg/g	-
ER02SED084D-09	11.5	13.5	ft	-	mg/kg	N,UJL	-	pg/g	U	3.8	pg/g	-	0.407	pg/g	-

LEGEND	
Groundwater Sample Collected on Site	
Sediment/Surface Water Sample Collected on Site	
Soil Sample Collected on Site	
Waste Water Effluent	
NA = Not Analyzed	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

APEX CHEMICAL COMPANY, INC.

NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	OCDD	Units	Result Qualifiers	2,4-D	Units	Result Qualifiers	2,4,5-TP	Units	Result Qualifiers	2,4,5-T	Units	Result Qualifiers
Phase II - Sample Location 083				NA			NA		NA				NA		
ER02SED083G-01	0	0.5	ft	21,000	pg/g	J	-	ug/kg	U,M	75	ug/kg	P, JH	-	ug/kg	R
ER02SED083G-02	0.5	1.5	ft	176,000	pg/g	D,EJ	130	ug/kg	JH	-	ug/kg	R	53	ug/kg	P, JH
ER02SED083G-03	1.5	2.5	ft	58,500	pg/g	-	280	ug/kg	P, JH	280	ug/kg	P, JH	-	ug/kg	U
ER02SED083G-04	2.5	3.5	ft	34,700	pg/g	J	-	ug/kg	U	320	ug/kg	JH	-	ug/kg	R
ER02SED083G-05	3.5	5.5	ft	3,970	pg/g	J	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED083G-06	5.5	7.5	ft	315	pg/g	J	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED083G-07	7.5	9.5	ft	53	pg/g	-	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
				Top 2 data points											

Sample Name	Depth Start	Depth End	Depth Units	OCDD	Units	Result Qualifiers	2,4-D	Units	Result Qualifiers	2,4,5-TP	Units	Result Qualifiers	2,4,5-T	Units	Result Qualifiers
Phase II - Sample Location 084				NA			NA		NA				NA		
ER02SED084D-01	0	0.5	ft	6,480	pg/g	J	-	ug/kg	U,M	52	ug/kg	P, NJ	21	ug/kg	G,P,J
ER02SED084D-02	0.5	1.5	ft	9,190	pg/g	J	22	ug/kg	G,P,J	30	ug/kg	P, NJ	-	ug/kg	U
ER02SED084D-03	1.5	2.5	ft	9,640	pg/g	J	-	ug/kg	U	19	ug/kg	JH	-	ug/kg	U
ER02SED084D-04	2.5	3.5	ft	6,150	pg/g	J	-	ug/kg	U	-	ug/kg	R	8.8	ug/kg	G, JH
ER02SED084D-05	3.5	5.5	ft	5,640	pg/g	J	140	ug/kg	P, JH	-	ug/kg	R	-	ug/kg	U
ER02SED084D-06	5.5	7.5	ft	8,270	pg/g	-	190	ug/kg	P, JH	-	ug/kg	R	19	ug/kg	D,G,P,J
ER02SED084D-07	7.5	9.5	ft	913	pg/g	-	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED084D-08	9.5	11.5	ft	242	pg/g	-	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED084D-09	11.5	13.5	ft	136	pg/g	-	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U

LEGEND

Groundwater Sample Collected on Site

Sediment/Surface Water Sample Collected on Site

Soil Sample Collected on Site

Waste Water Effluent

NA = Not Analyzed

Highest value detected in Phase I and II

Top 5% of values detected in Phase I and II

Top 20% of values detected in Phase I and II

APEX CHEMICAL COMPANY, INC.

NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Benzene	Units	Result Qualifiers	Ethylbenzene	Units	Result Qualifiers	Toluene	Units	Result Qualifiers	Total Xylene	Units	Result Qualifiers
Phase II - Sample Location 083				NA			894 3.1	ug/kg		2660 1.1	ug/kg		38,900 23	ug/kg	
ER02SED083G-01	0	0.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-02	0.5	1.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-03	1.5	2.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-04	2.5	3.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-05	3.5	5.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-06	5.5	7.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-07	7.5	9.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA

Sample Name	Depth Start	Depth End	Depth Units	Benzene	Units	Result Qualifiers	Ethylbenzene	Units	Result Qualifiers	Toluene	Units	Result Qualifiers	Total Xylene	Units	Result Qualifiers
Phase II - Sample Location 084				NA			894 3.1	ug/kg		2660 1.1	ug/kg		38,900 23	ug/kg	
ER02SED084D-01	0	0.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-02	0.5	1.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-03	1.5	2.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-04	2.5	3.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-05	3.5	5.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-06	5.5	7.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-07	7.5	9.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-08	9.5	11.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-09	11.5	13.5	ft	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA	NA	ug/kg	NA

LEGEND
Groundwater Sample Collected on Site
Sediment/Surface Water Sample Collected on Site
Soil Sample Collected on Site
Waste Water Effluent
NA = Not Analyzed
Highest value detected in Phase I and II
Top 5% of values detected in Phase I and II
Top 20% of values detected in Phase I and II

APEX CHEMICAL COMPANY, INC.

NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Chlorobenzene	Units	Result Qualifiers	1,2-dichlorobenzene	Units	Result Qualifiers	1,4-dichlorobenzene	Units	Result Qualifiers
Phase II - Sample Location 083				22.4	ug/kg		NA			1.9	ug/kg	
ER02SED083G-01	0	0.5	ft	-	ug/kg	UM	-	ug/kg	U	-	ug/kg	U
ER02SED083G-02	0.5	1.5	ft	12	ug/kg	G,M	-	ug/kg	UJ	11	ug/kg	G,J
ER02SED083G-03	1.5	2.5	ft	-	ug/kg	U,M	-	ug/kg	UJ	8.9	ug/kg	G, JH
ER02SED083G-04	2.5	3.5	ft	-	ug/kg	U	14	ug/kg	JH	26	ug/kg	JH
ER02SED083G-05	3.5	5.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED083G-06	5.5	7.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED083G-07	7.5	9.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U

Sample Name	Depth Start	Depth End	Depth Units	Chlorobenzene	Units	Result Qualifiers	1,2-dichlorobenzene	Units	Result Qualifiers	1,4-dichlorobenzene	Units	Result Qualifiers
Phase II - Sample Location 084				22.4	ug/kg		NA			1.9	ug/kg	
ER02SED084D-01	0	0.5	ft	-	ug/kg	U	-	ug/kg	U,M	-	ug/kg	U,M
ER02SED084D-02	0.5	1.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED084D-03	1.5	2.5	ft	-	ug/kg	U	-	ug/kg	U,M	-	ug/kg	U,M
ER02SED084D-04	2.5	3.5	ft	9	ug/kg	G,M	-	ug/kg	U,M	8.1	ug/kg	G,M
ER02SED084D-05	3.5	5.5	ft	5.7	ug/kg	G,M	-	ug/kg	U,M	7.8	ug/kg	G,M
ER02SED084D-06	5.5	7.5	ft	6.3	ug/kg	G,M	-	ug/kg	U,J	13	ug/kg	G,J
ER02SED084D-07	7.5	9.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED084D-08	9.5	11.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED084D-09	11.5	13.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U

LEGEND	
Groundwater Sample Collected on Site	
Sediment/Surface Water Sample Collected on Site	
Soil Sample Collected on Site	
Waste Water Effluent	
NA = Not Analyzed	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

APEX CHEMICAL COMPANY, INC.

NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	1,2,4-trichlorobenzene	Units	Result Qualifiers	Bis(2-ethylhexyl)phthalate	Units	Result Qualifiers	Naphthalene	Units	Result Qualifiers
Phase II - Sample Location 083				13.8	ug/kg		790 45	ug/kg		3,100	ug/kg	
ER02SED083G-01	0	0.5	ft	-	ug/kg	UJ	12,000	ug/kg	D,M	230	ug/kg	B,D,M
ER02SED083G-02	0.5	1.5	ft	-	ug/kg	UJ	44,000	ug/kg	D,M	640	ug/kg	B,D,M
ER02SED083G-03	1.5	2.5	ft	-	ug/kg	UJ	48,000	ug/kg	D,M	490	ug/kg	G,D,M
ER02SED083G-04	2.5	3.5	ft	-	ug/kg	UJ	8,900	ug/kg	D	1,900	ug/kg	D,J
ER02SED083G-05	3.5	5.5	ft	-	ug/kg	U	250	ug/kg	G, JH	47	ug/kg	B
ER02SED083G-06	5.5	7.5	ft	-	ug/kg	U	31	ug/kg	G, JH	-	ug/kg	U
ER02SED083G-07	7.5	9.5	ft	-	ug/kg	U	34	ug/kg	G	-	ug/kg	U

Sample Name	Depth Start	Depth End	Depth Units	1,2,4-trichlorobenzene	Units	Result Qualifiers	Bis(2-ethylhexyl)phthalate	Units	Result Qualifiers	Naphthalene	Units	Result Qualifiers
Phase II - Sample Location 084				13.8	ug/kg		790 45	ug/kg		3,100	ug/kg	
ER02SED084D-01	0	0.5	ft	-	ug/kg	U,M	10,000	ug/kg	D,B,M	78	ug/kg	D,B,M
ER02SED084D-02	0.5	1.5	ft	-	ug/kg	U	17,000	ug/kg	-	270	ug/kg	D,B,M
ER02SED084D-03	1.5	2.5	ft	-	ug/kg	U,M	21,000	ug/kg	G,D,M	630	ug/kg	G,D,M
ER02SED084D-04	2.5	3.5	ft	-	ug/kg	U,M	13,000	ug/kg	D,B,M	14,000	ug/kg	D
ER02SED084D-05	3.5	5.5	ft	-	ug/kg	U,M	15,000	ug/kg	D,B,M	11,000	ug/kg	D
ER02SED084D-06	5.5	7.5	ft	-	ug/kg	UJ	21,000	ug/kg	D	21,000	ug/kg	D
ER02SED084D-07	7.5	9.5	ft	-	ug/kg	U	-	ug/kg	U	7,800	ug/kg	D
ER02SED084D-08	9.5	11.5	ft	-	ug/kg	U	-	ug/kg	U	25	ug/kg	B,J
ER02SED084D-09	11.5	13.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U

LEGEND	
Groundwater Sample Collected on Site	
Sediment/Surface Water Sample Collected on Site	
Soil Sample Collected on Site	
Waste Water Effluent	
NA = Not Analyzed	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

APEX CHEMICAL COMPANY, INC.

NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Fluoranthene	Units	Result Qualifiers	Fluorene	Units	Result Qualifiers	Pyrene	Units	Result Qualifiers
Phase II - Sample Location 083				13,400	ug/kg		NA			13,300	ug/kg	
ER02SED083G-01	0	0.5	ft	5,100	ug/kg	J	250	ug/kg	D,M	7,000	ug/kg	D,M
ER02SED083G-02	0.5	1.5	ft	20,000	ug/kg	D,M	1,300	ug/kg	D,D	10,000	ug/kg	D,M
ER02SED083G-03	1.5	2.5	ft	13,000	ug/kg	D,M	540	ug/kg	G,D,M	6,900	ug/kg	D,M
ER02SED083G-04	2.5	3.5	ft	18,000	ug/kg	D	1,100	ug/kg	D,J	13,000	ug/kg	D,M
ER02SED083G-05	3.5	5.5	ft	250	ug/kg	G,JH	9	ug/kg	-	180	ug/kg	G,JH
ER02SED083G-06	5.5	7.5	ft	5	ug/kg	J	-	ug/kg	U	-	ug/kg	U
ER02SED083G-07	7.5	9.5	ft	5	ug/kg	J	-	ug/kg	U	-	ug/kg	U

Sample Name	Depth Start	Depth End	Depth Units	Fluoranthene	Units	Result Qualifiers	Fluorene	Units	Result Qualifiers	Pyrene	Units	Result Qualifiers
Phase II - Sample Location 084				13,400	ug/kg		NA			13,300	ug/kg	
ER02SED084D-01	0	0.5	ft	6,300	ug/kg	D,M	210	ug/kg	D,M	4,500	ug/kg	D,M
ER02SED084D-02	0.5	1.5	ft	9,500	ug/kg	D,M	500	ug/kg	D,M	9,500	ug/kg	D,M
ER02SED084D-03	1.5	2.5	ft	10,000	ug/kg	D,M	1,400	ug/kg	D,M	10,000	ug/kg	D,M
ER02SED084D-04	2.5	3.5	ft	11,000	ug/kg	D	4,000	ug/kg	D	11,000	ug/kg	D
ER02SED084D-05	3.5	5.5	ft	12,000	ug/kg	D	3,700	ug/kg	D	11,000	ug/kg	D
ER02SED084D-06	5.5	7.5	ft	42,000	ug/kg	D	12,000	ug/kg	D	26,000	ug/kg	D
ER02SED084D-07	7.5	9.5	ft	2,200	ug/kg	-	2,400	ug/kg	-	2,200	ug/kg	-
ER02SED084D-08	9.5	11.5	ft	3.8	ug/kg	G,J	1	ug/kg	G	-	ug/kg	R
ER02SED084D-09	11.5	13.5	ft	1.3	ug/kg	G,JH	-	ug/kg	U	-	ug/kg	U

LEGEND	
Groundwater Sample Collected on Site	
Sediment/Surface Water Sample Collected on Site	
Soil Sample Collected on Site	
Waste Water Effluent	
NA = Not Analyzed	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

APEX CHEMICAL COMPANY, INC.

NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Phenanthrene	Units	Result Qualifiers	TPH	Units	Result Qualifiers	Arsenic	Units	Result Qualifiers
Phase II - Sample Location 083				11,400	ug/kg		12,800 430	mg/kg		128 25 .00645	mg/kg	
ER02SED083G-01	0	0.5	ft	630	ug/kg	J	3,300	mg/kg	B,D,M	30	mg/kg	M
ER02SED083G-02	0.5	1.5	ft	690	ug/kg	D,M	6,400	mg/kg	B,D,M	22.9	mg/kg	M
ER02SED083G-03	1.5	2.5	ft	3,500	ug/kg	D,M	6,400	mg/kg	B,D,M	26.9	mg/kg	-
ER02SED083G-04	2.5	3.5	ft	13,000	ug/kg	DJ	2,400	mg/kg	B,D	20.8	mg/kg	-
ER02SED083G-05	3.5	5.5	ft	35	ug/kg	-	200	mg/kg	B	6.6	mg/kg	-
ER02SED083G-06	5.5	7.5	ft	3	ug/kg	G	-	mg/kg	U	4.3	mg/kg	-
ER02SED083G-07	7.5	9.5	ft	3	ug/kg	G	-	mg/kg	U	0.23	mg/kg	-

Sample Name	Depth Start	Depth End	Depth Units	Phenanthrene	Units	Result Qualifiers	TPH	Units	Result Qualifiers	Arsenic	Units	Result Qualifiers
Phase II - Sample Location 084				11,400	ug/kg		12,800 430	mg/kg		128 25 .00645	mg/kg	
ER02SED084D-01	0	0.5	ft	1,800	ug/kg	D,M	3,600	mg/kg	B,D,M	7.9	mg/kg	M
ER02SED084D-02	0.5	1.5	ft	4,000	ug/kg	D,M	4,700	mg/kg	B,D,M	8.3	mg/kg	M
ER02SED084D-03	1.5	2.5	ft	7,600	ug/kg	D,M	4,500	mg/kg	B,D,M	8.7	mg/kg	M
ER02SED084D-04	2.5	3.5	ft	17,000	ug/kg	D	3,700	mg/kg	B,D,M	6.8	mg/kg	-
ER02SED084D-05	3.5	5.5	ft	17,000	ug/kg	D	3,700	mg/kg	B,D	10.8	mg/kg	-
ER02SED084D-06	5.5	7.5	ft	50,000	ug/kg	D	7,100	mg/kg	B,D	14.4	mg/kg	-
ER02SED084D-07	7.5	9.5	ft	7,100	ug/kg	D	230	mg/kg	B	7	mg/kg	-
ER02SED084D-08	9.5	11.5	ft	3.8	ug/kg	G	-	mg/kg	U	4.4	mg/kg	-
ER02SED084D-09	11.5	13.5	ft	1.2	ug/kg	G, JH	-	mg/kg	U	0.25	mg/kg	B

LEGEND	
Groundwater Sample Collected on Site	
Sediment/Surface Water Sample Collected on Site	
Soil Sample Collected on Site	
Waste Water Effluent	
NA = Not Analyzed	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

APEX CHEMICAL COMPANY, INC.

NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Barium	Units	Result Qualifiers	Cadmium	Units	Result Qualifiers	Chromium	Units	Result Qualifiers	Copper	Units	Result Qualifiers
Phase II - Sample Location 083				1,210	mg/kg		9 0.0862 0.01	mg/kg		123 63 0.02	mg/kg		237 0.0328 0.09	mg/kg	
ER02SED083G-01	0	0.5	ft	406	mg/kg	-	8.1	mg/kg	* , M	309	mg/kg	M	552	mg/kg	M
ER02SED083G-02	0.5	1.5	ft	371	mg/kg	-	13.1	mg/kg	* , M	244	mg/kg	M	469	mg/kg	M
ER02SED083G-03	1.5	2.5	ft	357	mg/kg	-	12	mg/kg	* , M	354	mg/kg	M	570	mg/kg	M
ER02SED083G-04	2.5	3.5	ft	447	mg/kg	-	6.4	mg/kg	*	78.5	mg/kg	-	199	mg/kg	-
ER02SED083G-05	3.5	5.5	ft	117	mg/kg	-	2.2	mg/kg	* , J	24.8	mg/kg	-	25.5	mg/kg	-
ER02SED083G-06	5.5	7.5	ft	103	mg/kg	-	0.13	mg/kg	B, * , J	20.5	mg/kg	-	11	mg/kg	-
ER02SED083G-07	7.5	9.5	ft	96.1	mg/kg	-	0.15	mg/kg	B, * , J	22.1	mg/kg	-	14.1	mg/kg	-

Sample Name	Depth Start	Depth End	Depth Units	Barium	Units	Result Qualifiers	Cadmium	Units	Result Qualifiers	Chromium	Units	Result Qualifiers	Copper	Units	Result Qualifiers
Phase II - Sample Location 084				1,210	mg/kg		9 0.0862 0.01	mg/kg		123 63 0.02	mg/kg		237 0.0328 0.09	mg/kg	
ER02SED084D-01	0	0.5	ft	127	mg/kg	M	3.7	mg/kg	M	74.7	mg/kg	M	332	mg/kg	M
ER02SED084D-02	0.5	1.5	ft	149	mg/kg	M	6.3	mg/kg	M	106	mg/kg	M	326	mg/kg	M
ER02SED084D-03	1.5	2.5	ft	144	mg/kg	M	6	mg/kg	M	120	mg/kg	M	288	mg/kg	M
ER02SED084D-04	2.5	3.5	ft	157	mg/kg	-	4	mg/kg	-	84.3	mg/kg	-	202	mg/kg	-
ER02SED084D-05	3.5	5.5	ft	160	mg/kg	-	5.4	mg/kg	-	120	mg/kg	-	256	mg/kg	-
ER02SED084D-06	5.5	7.5	ft	178	mg/kg	-	10.1	mg/kg	-	144	mg/kg	-	299	mg/kg	-
ER02SED084D-07	7.5	9.5	ft	39	mg/kg	-	0.22	mg/kg	B	24.2	mg/kg	-	15	mg/kg	-
ER02SED084D-08	9.5	11.5	ft	97	mg/kg	-	0.13	mg/kg	B	21.2	mg/kg	-	14.8	mg/kg	-
ER02SED084D-09	11.5	13.5	ft	47.2	mg/kg	-	0.13	mg/kg	B	20.9	mg/kg	-	13	mg/kg	-

LEGEND	
Groundwater Sample Collected on Site	
Sediment/Surface Water Sample Collected on Site	
Soil Sample Collected on Site	
Waste Water Effluent	
NA = Not Analyzed	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

APEX CHEMICAL COMPANY, INC.

NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Cyanide	Units	Result Qualifiers	Lead	Units	Result Qualifiers	Manganese	Units	Result Qualifiers
Phase II - Sample Location 083							1,730 1,000 0.10	mg/kg		NA		
ER02SED083G-01	0	0.5	ft	1	mg/kg	B, *, JL	1,000	mg/kg	*, M	307	mg/kg	M
ER02SED083G-02	0.5	1.5	ft	2.2	mg/kg	B, *, JL	679	mg/kg	*, M	309	mg/kg	M
ER02SED083G-03	1.5	2.5	ft	4.5	mg/kg	N, *, JL	89.2	mg/kg	*, M	366	mg/kg	M
ER02SED083G-04	2.5	3.5	ft	6.7	mg/kg	N, *, JL	405	mg/kg	*	177	mg/kg	M
ER02SED083G-05	3.5	5.5	ft	0.67	mg/kg	B, *, JL	147	mg/kg	*	262	mg/kg	M
ER02SED083G-06	5.5	7.5	ft	-	mg/kg	N, *, UJL	9.9	mg/kg	*	145	mg/kg	M
ER02SED083G-07	7.5	9.5	ft	-	mg/kg	N, *, UJL	10.6	mg/kg	*	178	mg/kg	M

Sample Name	Depth Start	Depth End	Depth Units	Cyanide	Units	Result Qualifiers	Lead	Units	Result Qualifiers	Manganese	Units	Result Qualifiers
Phase II - Sample Location 084							1,730 1,000 0.10	mg/kg		NA		
ER02SED084D-01	0	0.5	ft	0.54	mg/kg	B,M	388	mg/kg	M	199	mg/kg	EJ
ER02SED084D-02	0.5	1.5	ft	0.58	mg/kg	B,M	494	mg/kg	M	232	mg/kg	EJ
ER02SED084D-03	1.5	2.5	ft	0.52	mg/kg	B,M	481	mg/kg	M	206	mg/kg	EJ
ER02SED084D-04	2.5	3.5	ft	0.72	mg/kg	B	379	mg/kg	-	177	mg/kg	EJ
ER02SED084D-05	3.5	5.5	ft	1	mg/kg	B	388	mg/kg	-	208	mg/kg	EJ
ER02SED084D-06	5.5	7.5	ft	0.93	mg/kg	B, N,JL	253	mg/kg	E, *, J	212	mg/kg	-
ER02SED084D-07	7.5	9.5	ft	0.19	mg/kg	B,N,JL	47.1	mg/kg	E, *, J	320	mg/kg	-
ER02SED084D-08	9.5	11.5	ft	-	mg/kg	N, UJL	12.6	ug/kg	E, *, J	194	mg/kg	-
ER02SED084D-09	11.5	13.5	ft	-	mg/kg	N, UJL	9.3	ug/kg	E, J	172	mg/kg	-

LEGEND	
Groundwater Sample Collected on Site	
Sediment/Surface Water Sample Collected on Site	
Soil Sample Collected on Site	
Waste Water Effluent	
NA = Not Analyzed	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

APEX CHEMICAL COMPANY, INC.

NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Mercury	Units	Result Qualifiers	Nickel	Units	Result Qualifiers	Silver	Units	Result Qualifiers
Phase II - Sample Location 083				18 5	mg/kg		60 0.163 0.05	mg/kg		6 0.0584	mg/kg	
ER02SED083G-01	0	0.5	ft	5.7	mg/kg	N, * JH	147	mg/kg	-	4.7	mg/kg	N,JL
ER02SED083G-02	0.5	1.5	ft	9.6	mg/kg	N, * JH	90.3	mg/kg	M	11	mg/kg	N,JL
ER02SED083G-03	1.5	2.5	ft	11.7	mg/kg	N, * JH	88.4	mg/kg	M	8	mg/kg	N,JL
ER02SED083G-04	2.5	3.5	ft	1.8	mg/kg	N, * JH	35.7	mg/kg	-	1.3	mg/kg	N,JL
ER02SED083G-05	3.5	5.5	ft	-	mg/kg	U,N,*	20.4	mg/kg	-	0.046	mg/kg	B,N,JL
ER02SED083G-06	5.5	7.5	ft	-	mg/kg	U,N,*	19.4	mg/kg	-	0.016	mg/kg	B,N,JL
ER02SED083G-07	7.5	9.5	ft	-	mg/kg	U,N,*	23.8	mg/kg	-	0.015	mg/kg	B,N,JL

Sample Name	Depth Start	Depth End	Depth Units	Mercury	Units	Result Qualifiers	Nickel	Units	Result Qualifiers	Silver	Units	Result Qualifiers
Phase II - Sample Location 084				18 5	mg/kg		60 0.163 0.05	mg/kg		6 0.0584	mg/kg	
ER02SED084D-01	0	0.5	ft	1.6	mg/kg	-	43	mg/kg	M	3	mg/kg	N,JL
ER02SED084D-02	0.5	1.5	ft	1.7	mg/kg	M	46	mg/kg	M	4.5	mg/kg	N,JL
ER02SED084D-03	1.5	2.5	ft	0.99	mg/kg	M	44	mg/kg	M	5	mg/kg	N,JL
ER02SED084D-04	2.5	3.5	ft	0.35	mg/kg	-	40	mg/kg	-	2.9	mg/kg	N,JL
ER02SED084D-05	3.5	5.5	ft	0.35	mg/kg	-	74	mg/kg	-	4.3	mg/kg	N,JL
ER02SED084D-06	5.5	7.5	ft	3.4	mg/kg	-	76	mg/kg	-	-	mg/kg	R
ER02SED084D-07	7.5	9.5	ft	0.18	mg/kg	B	18	mg/kg	-	-	mg/kg	R
ER02SED084D-08	9.5	11.5	ft	0.019	ug/kg	-	26	mg/kg	-	-	mg/kg	R
ER02SED084D-09	11.5	13.5	ft	-	ug/kg	U	24	mg/kg	-	-	mg/kg	R

LEGEND	
Groundwater Sample Collected on Site	
Sediment/Surface Water Sample Collected on Site	
Soil Sample Collected on Site	
Waste Water Effluent	
NA = Not Analyzed	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

APEX CHEMICAL COMPANY, INC.

NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Thallium	Units	Result Qualifiers	Zinc	Units	Result Qualifiers
Phase II - Sample Location 083				NA			618 0.674 0.26	mg/kg	
ER02SED083G-01	0	0.5	ft	0.29	mg/kg	B,M	821	mg/kg	M
ER02SED083G-02	0.5	1.5	ft	0.26	mg/kg	B,M	805	mg/kg	M
ER02SED083G-03	1.5	2.5	ft	0.29	mg/kg	B,M	826	mg/kg	-
ER02SED083G-04	2.5	3.5	ft	0.23	mg/kg	-	96.2	mg/kg	-
ER02SED083G-05	3.5	5.5	ft	0.13	mg/kg	B	42.8	mg/kg	-
ER02SED083G-06	5.5	7.5	ft	0.12	mg/kg	B	52.7	mg/kg	-
ER02SED083G-07	7.5	9.5	ft	0.16	mg/kg	B	-	mg/kg	-

Sample Name	Depth Start	Depth End	Depth Units	Thallium	Units	Result Qualifiers	Zinc	Units	Result Qualifiers
Phase II - Sample Location 084				NA			618 0.674 0.26	mg/kg	
ER02SED084D-01	0	0.5	ft	0.16	mg/kg	B,M	676	mg/kg	M
ER02SED084D-02	0.5	1.5	ft	0.18	mg/kg	B,M	627	mg/kg	M
ER02SED084D-03	1.5	2.5	ft	0.15	mg/kg	B,M	506	mg/kg	M
ER02SED084D-04	2.5	3.5	ft	0.11	mg/kg	B	364	mg/kg	-
ER02SED084D-05	3.5	5.5	ft	0.16	mg/kg	B	536	mg/kg	-
ER02SED084D-06	5.5	7.5	ft	0.19	mg/kg	B	661	mg/kg	EJ
ER02SED084D-07	7.5	9.5	ft	0.15	mg/kg	B	55.3	mg/kg	EJ
ER02SED084D-08	9.5	11.5	ft	0.14	mg/kg	B	60.1	mg/kg	EJ
ER02SED084D-09	11.5	13.5	ft	0.16	mg/kg	B	55.5	mg/kg	EJ

LEGEND	
Groundwater Sample Collected on Site	
Sediment/Surface Water Sample Collected on Site	
Soil Sample Collected on Site	
Waste Water Effluent	
NA = Not Analyzed	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

November 17, 2008

Ms. Amelia M. Wagner
United States Environmental Protection Agency
Region II
290 Broadway
17th Floor
New York, NY 10007-1866

Re: Newark Bay Study Area – Remedial Investigation Work Plan - Sediment Sampling and Source Identification Program Information - Central Steel Drum Company, Inc., Newark, New Jersey Site.

Dear Ms. Wagner,

As a follow up to evidence presented during the Phase I investigation under the Remedial Investigation Work Plan (“RIWP”) by Tierra Solutions, Inc. (“Tierra”) for the Newark Bay Study Area (“NBSA”), we are providing additional information from the Phase II sediment investigation for the Central Steel Drum Company, Inc. site (the “Site”).

As you are aware, Tierra presented evidence regarding the Site in our meeting with USEPA on March 27, 2008, and provided you with a Data Extraction Form and evidentiary exhibits. The Site, located at 704-738 Doremus Avenue Newark, New Jersey, is situated on approximately 8.5 acres of land. An unnamed drainage ditch lies to the south-southwest portion of the property and extends eastward for approximately 2,300 feet to Newark Bay. Central Steel Drum’s (“CSD”) operations consisted of the reconditioning of steel drums from 1952 through 1994 by incineration, sand blasting, and painting of the drums.

In 1979, NJDEP became involved with the Site when inspections revealed numerous spills, buried incinerator ash on Site, poor operating practices, and generally sloppy housekeeping. From that time forward, NJDEP issued numerous Notices of Violation, Administrative Orders, and Administrative Penalties to CSD for violations. None of the penalties were paid. NJDEP issued CSD a Notice of Prosecution for disposal of solid waste in 1980. In 1983, NJDEP referred CSD to Criminal Justice for a criminal investigation and to the Attorney General for an injunction for various violations of the Solid Waste Management Act. In 1983, EPA issued CSD a Consent Agreement and Final Compliance Order for a number of RCRA violations. The case was deemed inactive in 1985. CSD filed a Petition for Reorganization under Chapter 11 of the Bankruptcy Code in 1993. CSD was ordered to cease its drum incinerating operations in 1994 as a result of numerous Air Pollution Control Act violations. The incineration operations stopped, but the property and its owners abandoned the Site sometime in 1994.

From October 1997 through January 1998, EPA conducted an emergency removal action at the Site. This included the removal of thousands of drums, piles of ash, debris, asbestos and visibly

contaminated surface soil. At the conclusion of EPA's activities, control of the Site was returned to the City of Newark.

While operating at the Site, CSD processed approximately 3,000 drums per day (30-gallon and/or 55-gallon), many still containing wastes from various industries including paints, inks and adhesives. EPA and NJDEP inspections have documented the acceptance and presence of partially and completely full drums. In 1993, Judicial Consent Order estimated there had been as many as 35,000 to 60,000 drums on Site at any one time.

As stated previously, drum reconditioning began at CSD in 1952 and continued through 1994. Drums contained residues of paints, organic and inorganic hazardous substances. The sludge generated after the incineration process was again heated until an ash was produced. Hazardous inorganic substances found in this ash are typical of contaminants identified in the Phase I and II NBSA sediment investigation, as well as analysis of Site samples conducted in 1981, 1986, 1990, 2001 and 2004. These hazardous inorganic substances include:

- Arsenic
- Barium
- Cadmium
- Chromium
- Copper
- Lead
- Mercury
- Nickel

Sampling of soil, groundwater and sediment in the drainage ditch at the Site also confirmed the presence of polychlorinated dibenzo-p-dioxins ("PCDDs"), chlorinated herbicides, organochlorine pesticides, organics and inorganic hazardous substances. It should be noted that additional sampling has been planned and reportedly completed on this Site, in response to a requirement by NJDEP to delineate further the extent of dioxin contamination on-site. As of the date of this letter that data has not been received by Tierra, and thus is not reflected herein.

The drainage systems at the Site lead from the incinerator to a drainage ditch which received runoff from the entire Site. This runoff discharged to Newark Bay approximately 2,300 feet away. Sampling and analysis conducted during the Phase I & II NBSA sediment investigation has identified the following hazardous substances in NBSA sediments adjacent to this Site's historic drainage system outfall [an (*) represents the maximum value detected in the Phase I & II study.]

• 2,3,7,8-TCDD*	8,840 ppt
• Dioxin TEQ*	9,570 ppt
• Aldrin	26 ppm
• Aroclor PCB 1242	8,600 ppm

• Aroclor PCB 1254*	7,500 ppm
• Aroclor 1260*	2,500 ppm
• Total Aroclor PCBs*	18,100 ppm
• PCB-126*	2,100 ppm
• 2,4,5-TP	410 ppm
• 2,4-D	170 ppm
• 2,4,5-T	55 ppm
• Gamma BHC (Lindane)	9.3 ppm
• Dieldrin	82 ppm
• Endrin	8.1 ppm
• Benzene	130 ppm
• p,p'-DDD	69 ppm
• p,p'-DDE	600 ppm
• p,p'-DDT	37 ppm
• Chlorobenzene	27 ppm
• 1,2-dichlorobenzene	430 ppm
• 1,4-dichlorobenzene	1,400 ppm
• Bis(2-ethylhexyl)phthalate	310,000 ppm
• Butylbenzylphthalate	250 ppm
• Naphthalene	26,000 ppm
• TPH	12,000 ppm
• Fluorene	2,200 ppm
• Phenanthrene	7,300 ppm
• Pyrene	9,700 ppm
• Arsenic	70 ppm
• Cadmium	22 ppm
• Chromium	1,410 ppm
• Copper	753 ppm
• Lead	661 ppm
• Mercury	18 ppm
• Nickel	93 ppm
• Zinc	1,510 ppm

The information presented in the attached chart identifies analytical data from Phase I and II sediment sampling in the vicinity of the Site in comparison to detected concentrations of those same hazardous substances identified to date on Site. Yet additional Site data is being developed as of the date of this letter; thus, the hazardous substances identified to date on Site should be considered interim information and will be supplemented as additional data becomes available.

Sediment sampling for NBSA Phase I & II was carried out at depths ranging from 0 to 29.5 ft. Detected analytes highlighted in yellow on the chart represent values detected in the highest 20%

Ms. Amelia M. Wagner
November 17, 2008
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range for all samples analyzed in the NBSA Phase I & II Sediment Investigations, while orange highlighting depicts values among the top 5% of samples analyzed. Red highlighting denotes the highest value found within the NBSA Phase I & II data.

In light of the previous evidence, supplemented by this most recent data developed in Phase I & II, it is clear that the CSD Site has contributed hazardous substances to the Newark Bay Study Area.

Should you have any questions on the information presented in this letter or the enclosed chart, please do not hesitate to contact us.

Sincerely,
The Intelligence Group



Dennis P. Farley

Enclosures

cc: Elizabeth Butler – EPA
 Sara Galley, Esq. – Maxus
 Paul W. Herring, Esq. – Andrews Kurth
 Paul Bluestein – Tierra Solutions, Inc.

CENTRAL STEEL DRUM
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	2,3,7,8-TCDD	Units	Result Qualifiers	Total TCDD	Units	Result Qualifiers	Dioxin TEQ	Units	Result Qualifiers	OCDD	Units	Result Qualifiers	Aroclor PCB 1242	Units	Result Qualifiers
Sample Location 078 - Phase II (CSD Site max. soil/sed. values)				130/60	pg/g		NA			660	pg/g		85	pg/g		490	ug/kg	
NB02SED078H-01	0	0.5	ft	136	pg/g	-	291	pg/g	-	-	-	3,900	pg/g	-	200	ug/kg	M	
NB02SED078H-02	0.5	1.5	ft	132	pg/g	-	213	pg/g	-	194	pg/g	-	2,860	pg/g	-	180	ug/kg	
NB02SED078H-03	1.5	2.5	ft	144	pg/g	-	249	pg/g	-	202	pg/g	-	4,200	pg/g	-	380	ug/kg	M
NB02SED078H-04	2.5	3.5	ft	217	pg/g	-	396	pg/g	-	317	pg/g	-	8,460	pg/g	-	700	ug/kg	M
NB02SED078H-05	3.5	5.5	ft	275	pg/g	-	530	pg/g	-	396	pg/g	-	11,700	pg/g	-	1,800	ug/kg	D,M
NB02SED078H-06	5.5	7.5	ft	514	pg/g	-	514	pg/g	-	644	pg/g	-	11,400	pg/g	-	1,100	ug/kg	M
NB02SED078H-07	7.5	9.5	ft	416	pg/g	-	416	pg/g	-	518	pg/g	-	9,990	pg/g	-	1,400	ug/kg	D,J
NB02SED078H-08	9.5	11.5	ft	3,800	pg/g	-	3,800	pg/g	-	3,960	pg/g	-	16,800	pg/g	-	4,000	ug/kg	D,M
NB02SED078H-09	11.5	13.5	ft	3,050	pg/g	-	3,050	pg/g	-	3,220	pg/g	-	18,000	pg/g	-	4,800	ug/kg	D,M
NB02SED078H-10	13.5	15.5	ft	1,930	pg/g	-	1,930	pg/g	-	0.021	pg/g	-	22,500	pg/g	-	5,200	ug/kg	D,M
NB02SED078H-11	15.5	17.5	ft	3,020	pg/g	-	3,020	pg/g	-	3280	pg/g	-	34,300	pg/g	-	8,600	ug/kg	D,M
NB02SED078H-12	17.5	19.5	ft	4,090	pg/g	-	1,090	pg/g	-	4350	pg/g	-	24,600	pg/g	-	4,800	ug/kg	D,M
NB02SED078H-13	19.5	21.5	ft	4,420	pg/g	-	4,420	pg/g	-	4700	pg/g	-	16,200	pg/g	-	2,900	ug/kg	D,M
NB02SED078H-14	21.5	23.5	ft	1,720	pg/g	-	1,720	pg/g	-	2180	pg/g	-	26,300	pg/g	-	910	ug/kg	M
NB02SED078H-15	23.5	25.5	ft	8,760	pg/g	-	8,760	pg/g	-	9210	pg/g	-	31,300	pg/g	-	2,500	ug/kg	D,M
NB02SED078H-16	25.5	27.5	ft	8,840	pg/g	-	11,300	pg/g	-	9670	pg/g	-	46,300	pg/g	-	450	ug/kg	M
NB02SED078H-17	27.5	29.5	ft	522	pg/g	-	522	pg/g	-	813	pg/g	-	5,000	pg/g	-	280	ug/kg	M
				Top 5 out of 7 data points			Top 2 data points			Top 4 out of 6 data points								

Sample Name	Depth Start	Depth End	Depth Units	2,3,7,8-TCDD	Units	Result Qualifiers	Total TCDD	Units	Result Qualifiers	Dioxin TEQ	Units	Result Qualifiers	OCDD	Units	Result Qualifiers	Aroclor PCB 1242	Units	Result Qualifiers
Sample Location 052 - Phase I (CSD Site max. soil/sed. values)				130/60	pg/g		NA			660	pg/g		85	pg/g		490	ug/kg	
NB01SED052B-01	0	0.5	ft	85	pg/g	-	155	pg/g	-	NA	pg/g	NA	2,210	pg/g	-	-	ug/kg	UD
NB01SED052B-02	0.5	1.5	ft	127	pg/g	-	212	pg/g	-	NA	pg/g	NA	3,400	pg/g	-	-	ug/kg	U,D,M
NB01SED052B-03	1.5	3.5	ft	212	pg/g	-	398	pg/g	-	NA	pg/g	NA	10,100	pg/g	-	-	ug/kg	U,D,M
NB01SED052B-04	3.5	6	ft	401	pg/g	-	592	pg/g	-	NA	pg/g	NA	8,380	pg/g	-	-	ug/kg	U,D,M
NB01SED052B-05	6	8.5	ft	957	pg/g	-	1,130	pg/g	-	NA	pg/g	NA	13,400	pg/g	-	-	ug/kg	U,D,M
NB01SED052B-06	8.5	11	ft	2,230	pg/g	-	2,570	pg/g	-	NA	pg/g	NA	14,100	pg/g	-	-	ug/kg	U,D,M

LEGEND	
Drainage ditch sample collected on Site	
Soil sample collected on Site	
N/A = Not Analyzed	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

CENTRAL STEEL DRUM
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Aroclor PCB 1254	Units	Result Qualifiers	Aroclor PCB 1260	Units	Result Qualifiers	Total Aroclor PCB's	Units	Result Qualifiers	PCB - 126	Units	Result Qualifiers
Sample Location 078 - Phase II (CSD Site max. soil/sed. values)				180,000	ug/kg		80,000	ug/kg		180,000	ug/kg		NA		
NB02SED078H-01	0	0.5	ft	270	ug/kg	-	160	ug/kg	-	630	ug/kg	-	126	pg/g	D
NB02SED078H-02	0.5	1.5	ft	230	ug/kg	-	110	ug/kg	-	520	ug/kg	-	118	pg/g	D
NB02SED078H-03	1.5	2.5	ft	450	ug/kg	-	210	ug/kg	-	1,000	ug/kg	-	207	pg/g	D
NB02SED078H-04	2.5	3.5	ft	640	ug/kg	-	300	ug/kg	-	1,600	ug/kg	-	296	pg/g	D
NB02SED078H-05	3.5	5.5	ft	830	ug/kg	-	340	ug/kg	-	3,000	ug/kg	-	624	pg/g	D
NB02SED078H-06	5.5	7.5	ft	880	ug/kg	-	350	ug/kg	-	2,300	ug/kg	-	571	pg/g	D
NB02SED078H-07	7.5	9.5	ft	900	ug/kg	-	430	ug/kg	-	2,700	ug/kg	-	477	pg/g	D
NB02SED078H-08	9.5	11.5	ft	2,900	ug/kg	-	1,300	ug/kg	-	8,200	ug/kg	-	1,580	pg/g	D
NB02SED078H-09	11.5	13.5	ft	3,000	ug/kg	-	810	ug/kg	-	8,800	ug/kg	-	1,580	pg/g	D
NB02SED078H-10	13.5	15.5	ft	3,000	ug/kg	-	810	ug/kg	-	9,000	ug/kg	-	1,710	pg/g	D
NB02SED078H-11	15.5	17.5	ft	4,200	ug/kg	-	1,100	ug/kg	-	14,000	ug/kg	-	2,100	pg/g	D
NB02SED078H-12	17.5	19.5	ft	2,700	ug/kg	-	840	ug/kg	-	8,300	ug/kg	-	1,640	pg/g	D
NB02SED078H-13	19.5	21.5	ft	2,500	ug/kg	-	800	ug/kg	-	8,200	ug/kg	-	1,040	pg/g	D
NB02SED078H-14	21.5	23.5	ft	950	ug/kg	-	320	ug/kg	-	2,200	ug/kg	-	1,600	pg/g	D
NB02SED078H-15	23.5	25.5	ft	2,500	ug/kg	-	1,300	ug/kg	-	6,300	ug/kg	-	1,110	pg/g	D
NB02SED078H-16	25.5	27.5	ft	910	ug/kg	-	480	ug/kg	-	1,800	ug/kg	-	480	pg/g	D
NB02SED078H-17	27.5	29.5	ft	650	ug/kg	-	400	ug/kg	-	1,300	ug/kg	-	136	pg/g	D
													Top 5 out of 7 data points		

Sample Name	Depth Start	Depth End	Depth Units	Aroclor PCB 1254	Units	Result Qualifiers	Aroclor PCB 1260	Units	Result Qualifiers	Total Aroclor PCB's	Units	Result Qualifiers	PCB - 126	Units	Result Qualifiers
Sample Location 052 - Phase I (CSD Site max. soil/sed. values)				180,000	ug/kg		80,000	ug/kg		180,000	ug/kg		NA		
NB01SED052B-01	0	0.5	ft	380	ug/kg	D,J	160	ug/kg	G,D	800	ug/kg	J	115	pg/g	D
NB01SED052B-02	0.5	1.5	ft	750	ug/kg	D,J	300	ug/kg	D,M	1,650	ug/kg	J	203	pg/g	D,J
NB01SED052B-03	1.5	3.5	ft	1,500	ug/kg	D,J	510	ug/kg	D,M	3,210	ug/kg	J	519	pg/g	D,J
NB01SED052B-04	3.5	6	ft	1,900	ug/kg	D,J	740	ug/kg	D,M	5,040	ug/kg	J	474	pg/g	D,J
NB01SED052B-05	6	8.5	ft	4,200	ug/kg	D,J	1,300	ug/kg	D,M	10,700	ug/kg	J	1,290	pg/g	D,J
NB01SED052B-06	8.5	11	ft	7,500	ug/kg	D,J	2,500	ug/kg	D,M	18,100	ug/kg	J	1,580	pg/g	D,J

LEGEND															
Drainage ditch sample collected on Site															
Soil sample collected on Site															
N/A = Not Analyzed															
Highest Value Detected in Phase I and II															
Top 5% of Values Detected in Phase I and II															
Top 20% of Values Detected in Phase I and II															

CENTRAL STEEL DRUM
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Total PCB Congener	Units	Result Qualifiers	2,4-D	Units	Result Qualifiers	2,4,5-TP	Units	Result Qualifiers	2,4,6-T	Units	Result Qualifiers	Gamma BHC Lindane	Units	Result Qualifiers
Sample Location 078 - Phase II (CSD Site max. soil/sed. values)				NA			280	ug/kg		260	ug/kg		55	ug/kg		75	ug/kg	
NB02SED078H-01	0	0.5	ft	761,000	pg/g	-	64	ug/kg	G, JH	85	ug/kg	P, J	20	ug/kg	G, JH	-	ug/kg	U
NB02SED078H-02	0.5	1.5	ft	659,000	pg/g	-		ug/kg	U	11	ug/kg	P, J	-	ug/kg	U	-	ug/kg	U
NB02SED078H-03	1.5	2.5	ft	117,000	pg/g	-		ug/kg	U,M	12	ug/kg	P, J	-	ug/kg	U	-	ug/kg	U
NB02SED078H-04	2.5	3.5	ft	202,000	pg/g	-	97	ug/kg	GM	76	ug/kg	P, NJ	-	ug/kg	U	-	ug/kg	U
NB02SED078H-05	3.5	5.5	ft	425,000	pg/g	-	71	ug/kg	G,M	-	ug/kg	P, NJ	-	ug/kg	U	-	ug/kg	U
NB02SED078H-06	5.5	7.5	ft	397,000	pg/g	-		ug/kg	U,M	64	ug/kg	P, NJ	-	ug/kg	U	-	ug/kg	U
NB02SED078H-07	7.5	9.5	ft	4,070,000	pg/g	-	40	ug/kg	P, NJ	47	ug/kg	P, J	-	ug/kg	R	-	ug/kg	U
NB02SED078H-08	9.5	11.5	ft	11,500,000	pg/g	-	63	ug/kg	G, M	62	ug/kg	M	-	ug/kg	R	-	ug/kg	U
NB02SED078H-09	11.5	13.5	ft	11,200,000	pg/g	-	64	ug/kg	G, M	55	ug/kg	D,P,NJ	-	ug/kg	R	-	ug/kg	U
NB02SED078H-10	13.5	15.5	ft	12,300,000	pg/g	-		ug/kg	U	160	ug/kg	P, NJ	-	ug/kg	R	-	ug/kg	U
NB02SED078H-11	15.5	17.5	ft	17,900,000*	pg/g	-	72	ug/kg	G,M	110	ug/kg	P, NJ	-	ug/kg	R	-	ug/kg	U
NB02SED078H-12	17.5	19.5	ft	14,200,000	pg/g	-	75	ug/kg	GM	74	ug/kg	P, NJ	-	ug/kg	R	-	ug/kg	U
NB02SED078H-13	19.5	21.5	ft	7,170,000	pg/g	-	110	ug/kg	P, J	110	ug/kg	P, NJ	-	ug/kg	R	-	ug/kg	U
NB02SED078H-14	21.5	23.5	ft	12,400,000	pg/g	-		ug/kg	U, M	-	ug/kg	R	-	ug/kg	R	5.8	ug/kg	P, J
NB02SED078H-15	23.5	25.5	ft	6,730,000	pg/g	-		ug/kg	U	410	ug/kg	D,P,NJ	-	ug/kg	R	9.3	ug/kg	M
NB02SED078H-16	25.5	27.5	ft	2,560,000	pg/g	-	170	ug/kg	JH	-	ug/kg	R	-	ug/kg	R	-	ug/kg	U
NB02SED078H-17	27.5	29.5	ft	744,000	pg/g	-		ug/kg	U	-	ug/kg	R	55	ug/kg	-	-	ug/kg	U
				* 2nd highest data point														

Sample Name	Depth Start	Depth End	Depth Units	Total PCB Congeners	Units	Result Qualifiers	2,4-D	Units	Result Qualifiers	2,4,5-TP	Units	Result Qualifiers	2,4,6-T	Units	Result Qualifiers	Gamma BHC Lindane	Units	Result Qualifiers
Sample Location 052 - Phase I (CSD Site max. soil/sed. values)				NA			280	ug/kg		260	ug/kg		55	ug/kg		75	ug/kg	
NB01SED052B-01	0	0.5	ft	540,000	pg/g	-	-	ug/kg	U, D, J, L	-	ug/kg	U, D	-	ug/kg	U, D, J, L	-	ug/kg	U,D
NB01SED052B-02	0.5	1.5	ft	1,140,000	pg/g	-	-	ug/kg	U, D, J, L	-	ug/kg	U, D, M	-	ug/kg	U, D, J, L	-	ug/kg	U,D,M
NB01SED052B-03	1.5	3.5	ft	3,740,000	pg/g	-	-	ug/kg	U, D, J, L	-	ug/kg	U, D, M	-	ug/kg	U, D, J, L	-	ug/kg	U,D,M
NB01SED052B-04	3.5	6	ft	3,550,000	pg/g	-	-	ug/kg	U, D, J, L	-	ug/kg	U, D, M	-	ug/kg	U, D, J, L	-	ug/kg	U,D,M
NB01SED052B-05	6	8.5	ft	9,090,000	pg/g	-	-	ug/kg	U, J, L, D	5.5	ug/kg	G, P, D, N, J	-	ug/kg	U, D, J, L	-	ug/kg	U,D,M
NB01SED052B-06	8.5	11	ft	11,100,000	pg/g	-	-	ug/kg	U, J, L, D	14	ug/kg	G, P, D, J	-	ug/kg	U, D, J, L	-	ug/kg	D,U

LEGEND	
Drainage ditch sample collected on Site	
Soil sample collected on Site	
N/A = Not Analyzed	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

CENTRAL STEEL DRUM
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	4,4-DDD	Units	Result Qualifiers	4,4-DDE	Units	Result Qualifiers	4,4-DDT	Units	Result Qualifiers	Total DDT (4,4)	Units	Result Qualifiers	Aldrin	Units	Result Qualifiers
Sample Location 078 - Phase II (CSD Site max. soil/sed. values)				28,000	ug/kg		8,200	ug/kg		3,400	ug/kg		41,000	ug/kg		38,000	ug/kg	
NB02SED078H-01	0	0.5	ft	17	ug/kg	M	21	ug/kg	M	13	ug/kg	M	51	ug/kg	J	-	ug/kg	U
NB02SED078H-02	0.5	1.5	ft	8.2	ug/kg		16	ug/kg	-	-	ug/kg	U	24	ug/kg	J	-	ug/kg	U
NB02SED078H-03	1.5	2.5	ft	8	ug/kg	M	33	ug/kg	M	-	ug/kg	U	41	ug/kg	-	-	ug/kg	U
NB02SED078H-04	2.5	3.5	ft	8.7	ug/kg	P,J	49	ug/kg	M	29	ug/kg	P, NJ	87	ug/kg	J	-	ug/kg	U
NB02SED078H-05	3.5	5.5	ft	9.3	ug/kg	P,J	87	ug/kg	M	24	ug/kg	P, NJ	120	ug/kg	J	-	ug/kg	U
NB02SED078H-06	5.5	7.5	ft	13	ug/kg	P,J	65	ug/kg	M	9.5	ug/kg	P, NJ	88	ug/kg	J	-	ug/kg	U
NB02SED078H-07	7.5	9.5	ft	9.4	ug/kg	P,J	65	ug/kg	M	10	ug/kg	P, NJ	84	ug/kg	J	-	ug/kg	U
NB02SED078H-08	9.5	11.5	ft		ug/kg	R	89	ug/kg	M	28	ug/kg	P, NJ	120	ug/kg	J	-	ug/kg	U
NB02SED078H-09	11.5	13.5	ft		ug/kg	U,M	23	ug/kg	P, NJ	23	ug/kg	P, NJ	160	ug/kg	J	-	ug/kg	U
NB02SED078H-10	13.5	15.5	ft	13	ug/kg	P,NJ	99	ug/kg	M	24	ug/kg	P, NJ	140	ug/kg	J	-	ug/kg	U
NB02SED078H-11	15.5	17.5	ft	18	ug/kg	P,D,NJ	150	ug/kg	D,M	31	ug/kg	P, NJ	200	ug/kg	J	25	ug/kg	P,J
NB02SED078H-12	17.5	19.5	ft	22	ug/kg	P,D,NJ	100	ug/kg	D, M	37	ug/kg	P, NJ	160	ug/kg	J	-	ug/kg	U
NB02SED078H-13	19.5	21.5	ft	20	ug/kg	P,D,NJ	160	ug/kg	D, M	22	ug/kg	P, NJ	200	ug/kg	J	-	ug/kg	U
NB02SED078H-14	21.5	23.5	ft	39	ug/kg	M	160	ug/kg	D, M	20	ug/kg	P, NJ	200	ug/kg	J	-	ug/kg	U
NB02SED078H-15	23.5	25.5	ft	69	ug/kg	M	270	ug/kg	D, M	28	ug/kg	P, NJ	340	ug/kg	J	-	ug/kg	U
NB02SED078H-16	25.5	27.5	ft	69	ug/kg	M	440	ug/kg	D, M	14	ug/kg	P, NJ	520	ug/kg	J	-	ug/kg	U
NB02SED078H-17	27.5	29.5	ft	69	ug/kg	M	600	ug/kg	D, M	13	ug/kg	P, NJ	680	ug/kg	J	1.86	ug/kg	P,J

Sample Name	Depth Start	Depth End	Depth Units	4,4-DDD	Units	Result Qualifiers	4,4-DDE	Units	Result Qualifiers	4,4-DDT	Units	Result Qualifiers	Total DDT (4,4)	Units	Result Qualifiers	Aldrin	Units	Result Qualifiers
Sample Location 052 - Phase I (CSD Site max. soil/sed. values)				28,000	ug/kg		8,200	ug/kg		3,400	ug/kg		41,000	ug/kg		38,000	ug/kg	
NB01SED052B-01	0	0.5	ft	-	ug/kg	U	28	ug/kg	P, D, J	-	ug/kg	U, D, J	NA	ug/kg	NA	-	ug/kg	UD
NB01SED052B-02	0.5	1.5	ft	-	ug/kg	U	53	ug/kg	P, D, J	-	ug/kg	U, D, J	NA	ug/kg	NA	-	ug/kg	U,D,M
NB01SED052B-03	1.5	3.5	ft	-	ug/kg	U	110	ug/kg	P, D, J	-	ug/kg	U, D, J	NA	ug/kg	NA	-	ug/kg	U,D,M
NB01SED052B-04	3.5	6	ft	-	ug/kg	U	110	ug/kg	P, D, J	-	ug/kg	U, D, J	NA	ug/kg	NA	-	ug/kg	U,D,M
NB01SED052B-05	6	8.5	ft	-	ug/kg	U		ug/kg	U, D, M	-	ug/kg	U, D, J	NA	ug/kg	NA	-	ug/kg	U,D,M
NB01SED052B-06	8.5	11	ft	-	ug/kg	U	140	ug/kg	P, D, J	-	ug/kg	U, D, J	NA	ug/kg	NA	-	ug/kg	U,D,M

LEGEND	
Drainage ditch sample collected on Site	
Soil sample collected on Site	
N/A = Not Analyzed	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

CENTRAL STEEL DRUM
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Dieldrin	Units	Result Qualifiers	Endrin	Units	Result Qualifiers	Benzene	Units	Result Qualifiers	Chlorobenzene	Units	Result Qualifiers
Sample Location 078 - Phase II (CSD Site max. soil/sed. values)															
NB02SED078H-01	0	0.5	ft	9.4	ug/kg	M	-	ug/kg	U,M	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-02	0.5	1.5	ft	4.8	ug/kg	P,J	-	ug/kg	U	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-03	1.5	2.5	ft	8.4	ug/kg	P,J	-	ug/kg	U,M	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-04	2.5	3.5	ft	12	ug/kg	P,J	-	ug/kg	U,M	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-05	3.5	5.5	ft	18	ug/kg	P,J	-	ug/kg	U,M	-	ug/kg	-	14	ug/kg	G, M
NB02SED078H-06	5.5	7.5	ft	19	ug/kg	P,J	-	ug/kg	U,M	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-07	7.5	9.5	ft	20	ug/kg	P, NJ	-	ug/kg	U,M	-	ug/kg	-	8	ug/kg	G, M
NB02SED078H-08	9.5	11.5	ft	54	ug/kg	P, NJ	-	ug/kg	U,M	-	ug/kg	-	27	ug/kg	J
NB02SED078H-09	11.5	13.5	ft	43	ug/kg	P, NJ	-	ug/kg	U,M	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-10	13.5	15.5	ft	43	ug/kg	P, NJ	-	ug/kg	U,M	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-11	15.5	17.5	ft	50	ug/kg	P, NJ	-	ug/kg	U,M	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-12	17.5	19.5	ft	54	ug/kg	P, NJ	7	ug/kg	G,P,J	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-13	19.5	21.5	ft	71	ug/kg	P, J	-	ug/kg	U	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-14	21.5	23.5	ft	82	ug/kg	P, J	0.1	ug/kg	NJ	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-15	23.5	25.5	ft	43	ug/kg	P, NJ	-	ug/kg	D,U	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-16	25.5	27.5	ft	18	ug/kg	P, J	-	ug/kg	U,M	-	ug/kg	-	-	ug/kg	U, M
NB02SED078H-17	27.5	29.5	ft	12	ug/kg	P,J	-	ug/kg	U	-	ug/kg	-	-	ug/kg	U, M

Sample Name	Depth Start	Depth End	Depth Units	Dieldrin	Units	Result Qualifiers	Endrin	Units	Result Qualifiers	Benzene	Units	Result Qualifiers	Chlorobenzene	Units	Result Qualifiers
Sample Location 052 - Phase I (CSD Site max. soil/sed. values)															
NB01SED052B-01	0	0.5	ft	-	ug/kg	UD	-	ug/kg	U,D,J	-	ug/kg	U	7	ug/kg	G
NB01SED052B-02	0.5	1.5	ft	-	ug/kg	U,D,M	-	ug/kg	U,D,J	-	ug/kg	U,M	-	ug/kg	U, M
NB01SED052B-03	1.5	3.5	ft	-	ug/kg	U,D,M	-	ug/kg	U,D,J	7	ug/kg	G,M	12	ug/kg	G, M
NB01SED052B-04	3.5	6	ft	-	ug/kg	U,D,M	-	ug/kg	U,D,J	18	ug/kg	M	3	ug/kg	G, J
NB01SED052B-05	6	8.5	ft	-	ug/kg	U,D,M	-	ug/kg	U,D,J	65	ug/kg	M	8	ug/kg	G, M
NB01SED052B-06	8.5	11	ft	-	ug/kg	U,D,M	-	ug/kg	U,D,J	130	ug/kg	M	22	ug/kg	M

LEGEND	
Drainage ditch sample collected on Site	
Soil sample collected on Site	
N/A = Not Analyzed	
Bottom Values Detected in Phases I and II	
Top 1% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

CENTRAL STEEL DRUM
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	1,2-dichlorobenzene	Units	Result Qualifiers	1,4-dichlorobenzene	Units	Result Qualifiers	Naphthalene	Units	Result Qualifiers	Bis(2-ethylhexyl)phthalate	Units	Result Qualifiers
Sample Location 078 - Phase II (CSD Site max. soil/sed. values)				70,000	ug/kg		7,600	ug/kg		120,000	ug/kg		1,600,000	ug/kg	
NB02SED078H-01	0	0.5	ft	-	ug/kg	UJ	9	ug/kg	G,J	180	ug/kg	G,M	6,300	ug/kg	M
NB02SED078H-02	0.5	1.5	ft	-	ug/kg	U,M	13	ug/kg	U,M	110	ug/kg	G	8,200	ug/kg	D
NB02SED078H-03	1.5	2.5	ft	-	ug/kg	U,M	-	ug/kg	U,M	130	ug/kg	G,M	39,000	ug/kg	D, M
NB02SED078H-04	2.5	3.5	ft	-	ug/kg	UJ	-	ug/kg	-	160	ug/kg	D,G,M	120,000	ug/kg	D, M
NB02SED078H-05	3.5	5.5	ft	-	ug/kg	UJ	20	ug/kg	G,J	240	ug/kg	D,G,M	20,000	ug/kg	D, M
NB02SED078H-06	5.5	7.5	ft	-	ug/kg	U,M	1,400	ug/kg	J	390	ug/kg	D,G,M	200,000	ug/kg	D, M
NB02SED078H-07	7.5	9.5	ft	5.6	ug/kg	G,J	-	ug/kg	U,M	320	ug/kg	D,G,M	110,000	ug/kg	D, M
NB02SED078H-08	9.5	11.5	ft	-	ug/kg	U,J	-	ug/kg	U,M	2,800	ug/kg	D,M	35,000	ug/kg	D, G, M
NB02SED078H-09	11.5	13.5	ft	-	ug/kg	U,M	-	ug/kg	U,M	5,100	ug/kg	D,M	27,000	ug/kg	D, M
NB02SED078H-10	13.5	15.5	ft	430	ug/kg	G,M	1,300	ug/kg	G,M	7,100	ug/kg	D,M	21,000	ug/kg	D, M
NB02SED078H-11	15.5	17.5	ft	270	ug/kg	G,M	660	ug/kg	G,M	4,000	ug/kg	D,M	32,000	ug/kg	D, M
NB02SED078H-12	17.5	19.5	ft	-	ug/kg	U,M	430	ug/kg	G,M	3,900	ug/kg	D,M	24,000	ug/kg	D, M
NB02SED078H-13	19.5	21.5	ft	-	ug/kg	U,M	250	ug/kg	G,M	-	ug/kg	D,U,M	26,000	ug/kg	D,M
NB02SED078H-14	21.5	23.5	ft	-	ug/kg	U,M	350	ug/kg	G,M	6,700	ug/kg	D,M	92,000	ug/kg	D, M
NB02SED078H-15	23.5	25.5	ft	-	ug/kg	U,M	310	ug/kg	G,M	13,000	ug/kg	D,M	65,000	ug/kg	D, M
NB02SED078H-16	25.5	27.5	ft	-	ug/kg	U,M	-	ug/kg	U,M	25,000	ug/kg	D,M	60,000	ug/kg	D, M
NB02SED078H-17	27.5	29.5	ft	4.9	ug/kg	G,J	-	ug/kg	U,UJ	25,000	ug/kg	D,M	7,200	ug/kg	D, M

Sample Name	Depth Start	Depth End	Depth Units	1,2-Dichlorobenzene	Units	Result Qualifiers	1,4-Dichlorobenzene	Units	Result Qualifiers	Naphthalene	Units	Result Qualifiers	Bis(2-ethylhexyl)phthalate	Units	Result Qualifiers
Sample Location 052 - Phase I (CSD Site max. soil/sed. values)				70,000	ug/kg		7,600	ug/kg		120,000	ug/kg		1,600,000	ug/kg	
NB01SED052B-01	0	0.5	ft	-	ug/kg	U,D,J,L	-	ug/kg	U,D	180	ug/kg	G,D	5,000	ug/kg	D
NB01SED052B-02	0.5	1.5	ft	-	ug/kg	U,D,J,L	-	ug/kg	U,D,M	310	ug/kg	G,D,M	61,000	ug/kg	D, M
NB01SED052B-03	1.5	3.5	ft	-	ug/kg	U,D,J,L	340	ug/kg	G,D,M	640	ug/kg	G,D,M	310,000	ug/kg	D, M
NB01SED052B-04	3.5	6	ft	-	ug/kg	U,D,J,L	400	ug/kg	G,D,M	680	ug/kg	G,D,M	180,000	ug/kg	D, M
NB01SED052B-05	6	8.5	ft	-	ug/kg	U,D,J,L	780	ug/kg	G,D,M	3,300	ug/kg	D,M	60,000	ug/kg	D, M
NB01SED052B-06	8.5	11	ft	-	ug/kg	U,D,J,L	1,000	ug/kg	G,D,M	10,000	ug/kg	D,M	45,000	ug/kg	D, M

LEGEND	
Drainage ditch sample collected on Site	
Soil sample collected on Site	
N/A = Not Analyzed	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

CENTRAL STEEL DRUM
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Butylbenzylphthalate	Units	Result Qualifiers	TPH	Units	Result Qualifiers	Fluorene	Units	Result Qualifiers	Phenanthrene	Units	Result Qualifiers
Sample Location 078 - Phase II (CSD Site max. soil/sed. values)				200,000	ug/kg		150,157	mg/kg		220,000	ug/kg		200,000	ug/kg	
NB02SED078H-01	0	0.5	ft	250	ug/kg	G,M	4,200	mg/kg	M	150	ug/kg	M	1,300	ug/kg	M
NB02SED078H-02	0.5	1.5	ft	46	ug/kg	G	920	mg/kg	-	76	ug/kg	-	520	ug/kg	M
NB02SED078H-03	1.5	2.5	ft	82	ug/kg	G,J	1,800	mg/kg	M	47	ug/kg	M	430	ug/kg	D,G,M
NB02SED078H-04	2.5	3.5	ft	-	ug/kg	D,U,M	3,700	mg/kg	M	77	ug/kg	M	430	ug/kg	D,G,M
NB02SED078H-05	3.5	5.5	ft	-	ug/kg	D,U,M	5,000	mg/kg	M	280	ug/kg	M	920	ug/kg	D,G,M
NB02SED078H-06	5.5	7.5	ft	-	ug/kg	D,U,M	4,800	mg/kg	M	250	ug/kg	M	1,300	ug/kg	D,M
NB02SED078H-07	7.5	9.5	ft	-	ug/kg	D,U,M	3,200	mg/kg	M	270	ug/kg	D,G,M	1,300	ug/kg	D,M
NB02SED078H-08	9.5	11.5	ft	-	ug/kg	D,U,M	4,900	mg/kg	M	680	ug/kg	D,G,M	2,300	ug/kg	D,M
NB02SED078H-09	11.5	13.5	ft	150	ug/kg	D,G,M	7,400	mg/kg	M	1,500	ug/kg	D,G,M	5,000	ug/kg	D,M
NB02SED078H-10	13.5	15.5	ft	-	ug/kg	D,U,M	7,000	mg/kg	M	2,000	ug/kg	D,M	6,300	ug/kg	D,M
NB02SED078H-11	15.5	17.5	ft	-	ug/kg	D,U,M	9,400	mg/kg	M	2,200	ug/kg	D,M	7,200	ug/kg	D,M
NB02SED078H-12	17.5	19.5	ft	-	ug/kg	D,U,M	8,600	mg/kg	M	1,400	ug/kg	D,G,M	5,400	ug/kg	D,M
NB02SED078H-13	19.5	21.5	ft	-	ug/kg	D,U,M	7,200	mg/kg	M	1,000	ug/kg	D,G,M	3,700	ug/kg	D,M
NB02SED078H-14	21.5	23.5	ft	-	ug/kg	D,U,M	10,000	mg/kg	M	790	ug/kg	D,G,M	2,800	ug/kg	D,M
NB02SED078H-15	23.5	25.5	ft	-	ug/kg	D,U,M	12,000	mg/kg	M	970	ug/kg	D,G,M	4,400	ug/kg	D,M
NB02SED078H-16	25.5	27.5	ft	-	ug/kg	D,U,M	7,900	mg/kg	M	1,700	ug/kg	D,G,M	6,000	ug/kg	D,M
NB02SED078H-17	27.5	29.5	ft	-	ug/kg	D,U,M	10,000	mg/kg	M	1,800	ug/kg	D,M	6,100	ug/kg	D,M

Sample Name	Depth Start	Depth End	Depth Units	Butylbenzylphthalate	Units	Result Qualifiers	TPH	Units	Result Qualifiers	Fluorene	Units	Result Qualifiers	Phenanthrene	Units	Result Qualifiers
Sample Location 052 - Phase I (CSD Site max. soil/sed. values)				200,000	ug/kg		150,157	mg/kg		220,000	ug/kg		200,000	ug/kg	
NB01SED052B-01	0	0.5	ft	-	ug/kg	UD	1,100	mg/kg	D	-	ug/kg	U,G	590	ug/kg	G,D
NB01SED052B-02	0.5	1.5	ft	-	ug/kg	U,D,M	2,500	mg/kg	D,M	-	ug/kg	U,D,M	610	ug/kg	G,D,M
NB01SED052B-03	1.5	3.5	ft	-	ug/kg	U,D,M	4,200	mg/kg	D,M	380	ug/kg	G,D,M	1,300	ug/kg	G,D,M
NB01SED052B-04	3.5	6	ft	-	ug/kg	U,D,M	4,000	mg/kg	D,M	470	ug/kg	G,D,M	1,700	ug/kg	D,M
NB01SED052B-05	6	8.5	ft	-	ug/kg	U,D,M	4,600	mg/kg	D,M	880	ug/kg	G,D,M	3,300	ug/kg	D,M
NB01SED052B-06	8.5	11	ft	-	ug/kg	U,D,M	9,700	mg/kg	D,M	2,000	ug/kg	D,M	7,300	ug/kg	D,M

LEGEND	
Drainage ditch sample collected on Site	
Soil sample collected on Site	
N/A = Not Analyzed	
Highest Value Detected in Phase I and II	
Top 1% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

CENTRAL STEEL DRUM
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Pyrene	Units	Result Qualifiers	Arsenic	Units	Result Qualifiers	Beryllium	Units	Result Qualifiers	Cadmium	Units	Result Qualifiers	Chromium	Units	Result Qualifiers
Sample Location 078 - Phase II (CSD Site max. soil/sed. values)				390,000	ug/kg		69	mg/kg		1.9	mg/kg		340	mg/kg		13,000	mg/kg	
NB02SED078H-01	0	0.5	ft	6,800	ug/kg	M	10.1	mg/kg	M	0.66	mg/kg	M	2.9		M	113	mg/kg	M
NB02SED078H-02	0.5	1.5	ft	2,300	ug/kg	-	11.5	mg/kg	-	0.54	mg/kg	B	1.9	mg/kg	M	124	mg/kg	-
NB02SED078H-03	1.5	2.5	ft	2,200	ug/kg	J	16	mg/kg	M	0.7	mg/kg	B,M	4.4	mg/kg	M	204	mg/kg	M
NB02SED078H-04	2.5	3.5	ft	2,200	ug/kg	D,M	19.1	mg/kg	M	0.69	mg/kg	B,M	8	mg/kg	M	335	mg/kg	M
NB02SED078H-05	3.5	5.5	ft	2,700	ug/kg	D,M	23.1	mg/kg	M	0.78	mg/kg	B,M	12.3	mg/kg	M	468	mg/kg	M
NB02SED078H-06	5.5	7.5	ft	3,800	ug/kg	D,M	26.8	mg/kg	M	0.82	mg/kg	B,M	11.6	mg/kg	M	405	mg/kg	M
NB02SED078H-07	7.5	9.5	ft	2,100	ug/kg	D,M	20.9	mg/kg	M	0.95	mg/kg	M	10.1	mg/kg	M	376	mg/kg	M
NB02SED078H-08	9.5	11.5	ft	3,700	ug/kg	D,M	46	mg/kg	M	0.8	mg/kg	B,M	18.6	mg/kg	M	842	mg/kg	M
NB02SED078H-09	11.5	13.5	ft	8,700	ug/kg	D,J	57.7	mg/kg	M	0.81	mg/kg	B,M	15.8	mg/kg	M	822	mg/kg	M
NB02SED078H-10	13.5	15.5	ft	8,300	ug/kg	D,J	59	mg/kg	M	0.82	mg/kg	B,M	16.8	mg/kg	M	849	mg/kg	M
NB02SED078H-11	15.5	17.5	ft	6,700	ug/kg	D,M	69.8	mg/kg	M	0.76	mg/kg	B,M	21.8	mg/kg	M	1,230	mg/kg	M
NB02SED078H-12	17.5	19.5	ft	8,200	ug/kg	D,J	58.7	mg/kg	M	0.68	mg/kg	B,M	20.8	mg/kg	M	1,220	mg/kg	M
NB02SED078H-13	19.5	21.5	ft	7,000	ug/kg	D,J	44.8	mg/kg	M	0.75	mg/kg	B,M	13	mg/kg	M	1,070	mg/kg	M
NB02SED078H-14	21.5	23.5	ft	4,100	ug/kg	D,M	38.9	mg/kg	M	0.83	mg/kg	B,M	15	mg/kg	M	993	mg/kg	M
NB02SED078H-15	23.5	25.5	ft	4,400	ug/kg	D,M	59.2	mg/kg	M	0.92	mg/kg	M	21.5	mg/kg	M	1,410	mg/kg	M
NB02SED078H-16	25.5	27.5	ft	7,900	ug/kg	D,M	58	mg/kg	M	0.89	mg/kg	M	13.6	mg/kg	M	1,400	mg/kg	M
NB02SED078H-17	27.5	29.5	ft	9,700	ug/kg	D,M	61.2	mg/kg	M	0.86	mg/kg	M	15.1	mg/kg	M	1,170	mg/kg	M

Sample Name	Depth Start	Depth End	Depth Units	Pyrene	Units	Result Qualifiers	Arsenic	Units	Result Qualifiers	Beryllium	Units	Result Qualifiers	Cadmium	Units	Result Qualifiers	Chromium	Units	Result Qualifiers
Sample Location 052 - Phase I (CSD Site max. soil/sed. values)				390,000	ug/kg		69	mg/kg		1.9	mg/kg		340	mg/kg		130,000	mg/kg	
NB01SED052B-01	0	0.5	ft	2,600	ug/kg	D	9.4	mg/kg	-	0.73	mg/kg	B	1	mg/kg	-	104	mg/kg	E, J
NB01SED052B-02	0.5	1.5	ft	4,000	ug/kg	D,M	14.4	mg/kg	M	0.91	mg/kg	B,M	3.5	mg/kg	M	194	mg/kg	E, J
NB01SED052B-03	1.5	3.5	ft	4,900	ug/kg	D,M	20.2	mg/kg	M	1.1	mg/kg	B,M	10.8	mg/kg	M	464	mg/kg	E, J
NB01SED052B-04	3.5	6	ft	4,100	ug/kg	D,M	20.9	mg/kg	M	1.2	mg/kg	M	8	mg/kg	M	356	mg/kg	E, J
NB01SED052B-05	6	8.5	ft	5,100	ug/kg	D,M	32.1	mg/kg	M	1.2	mg/kg	M	9.4	mg/kg	M	541	mg/kg	E, J
NB01SED052B-06	8.5	11	ft	8,400	ug/kg	D,M	53	mg/kg	M	1.1	mg/kg	M	13.5	mg/kg	M	749	mg/kg	E, J

LEGEND	
Drainage ditch sample collected on Site	
Soil sample collected on Site	
N/A = Not Analyzed	
Highest Value Detected in Phase I and II	
Top 8% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

CENTRAL STEEL DRUM
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Copper	Units	Result Qualifiers	Lead	Units	Result Qualifiers	Mercury	Units	Result Qualifiers	Nickel	Units	Result Qualifiers
Sample Location 078 - Phase II (CSD Site max. soil/sed. values)				3,700	mg/kg		28,000	mg/kg		94	mg/kg		830	mg/kg	
NB02SED078H-01	0	0.5	ft	162	mg/kg	M	-	-	-	-	-	36.2	mg/kg	M	
NB02SED078H-02	0.5	1.5	ft	132	mg/kg	-	129	mg/kg	NA	2.3	mg/kg	-	36.8	mg/kg	-
NB02SED078H-03	1.5	2.5	ft	223	mg/kg	M	210	mg/kg	M	5.1	mg/kg	M	42	mg/kg	M
NB02SED078H-04	2.5	3.5	ft	349	mg/kg	M	317	mg/kg	M	11.7	mg/kg	M	60.1	mg/kg	M
NB02SED078H-05	3.5	5.5	ft	438	mg/kg	M	469	mg/kg	M	14	mg/kg	M	72.8	mg/kg	M
NB02SED078H-06	5.5	7.5	ft	367	mg/kg	M	416	mg/kg	M	11.3	mg/kg	M	55.5	mg/kg	M
NB02SED078H-07	7.5	9.5	ft	256	mg/kg	M	287	mg/kg	M	5.7	mg/kg	M	55.3	mg/kg	M
NB02SED078H-08	9.5	11.5	ft	489	mg/kg	M	472	mg/kg	M	14.8	mg/kg	M	63.7	mg/kg	M
NB02SED078H-09	11.5	13.5	ft	484	mg/kg	M	383	mg/kg	M	15.4	mg/kg	M	80.2	mg/kg	M
NB02SED078H-10	13.5	15.5	ft	460	mg/kg	M	334	mg/kg	M	17.4	mg/kg	M	82.1	mg/kg	M
NB02SED078H-11	15.5	17.5	ft	616	mg/kg	M	432	mg/kg	M	18.3	mg/kg	M	112	mg/kg	M
NB02SED078H-12	17.5	19.5	ft	609	mg/kg	M	391	mg/kg	M	15.7	mg/kg	M	93.4	mg/kg	M
NB02SED078H-13	19.5	21.5	ft	416	mg/kg	M	353	mg/kg	M	10.2	mg/kg	M	61.1	mg/kg	M
NB02SED078H-14	21.5	23.5	ft	456	mg/kg	M	388	mg/kg	M	9.9	mg/kg	M	66	mg/kg	M
NB02SED078H-15	23.5	25.5	ft	753	mg/kg	M	661	mg/kg	M	15.1	mg/kg	M	87.8	mg/kg	M
NB02SED078H-16	25.5	27.5	ft	551	mg/kg	M	491	mg/kg	M	14.9	mg/kg	M	55.2	mg/kg	M
NB02SED078H-17	27.5	29.5	ft	590	mg/kg	M	528	mg/kg	M	16.8	mg/kg	M	56.4	mg/kg	M

Sample Name	Depth Start	Depth End	Depth Units	Copper	Units	Result Qualifiers	Lead	Units	Result Qualifiers	Mercury	Units	Result Qualifiers	Nickel	Units	Result Qualifiers
Sample Location 052 - Phase I (CSD Site max. soil/sed. values)				3,700	mg/kg		28,000	mg/kg		94	mg/kg		830	mg/kg	
NB01SED052B-01	0	0.5	ft	103	mg/kg	-	112	mg/kg	-	2	mg/kg	-	32.4	mg/kg	E,J
NB01SED052B-02	0.5	1.5	ft	194	mg/kg	-	205	mg/kg	M	5.1	mg/kg	M	43.5	mg/kg	E,J
NB01SED052B-03	1.5	3.5	ft	434	mg/kg	-	452	mg/kg	M	13	mg/kg	M	76.7	mg/kg	E,J
NB01SED052B-04	3.5	6	ft	560	mg/kg	-	336	mg/kg	M	8.1	mg/kg	M	51	mg/kg	E,J
NB01SED052B-05	6	8.5	ft	315	mg/kg	-	309	mg/kg	M	10.8	mg/kg	M	58.4	mg/kg	E,J
NB01SED052B-06	8.5	11	ft	429	mg/kg	-	357	mg/kg	M	16.2	mg/kg	M	78	mg/kg	E,J

LEGEND	
Drainage ditch sample collected on Site	
Soil sample collected on Site	
N/A = Not Analyzed	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

CENTRAL STEEL DRUM
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Zinc	Units	Result Qualifiers
Sample Location 078 - Phase II (CSD Site max. soil/sed. values)				15,000	mg/kg	
NB02SED078H-01	0	0.5	ft	451	mg/kg	JH
NB02SED078H-02	0.5	1.5	ft	237	mg/kg	JH
NB02SED078H-03	1.5	2.5	ft	368	mg/kg	JH
NB02SED078H-04	2.5	3.5	ft	624	mg/kg	JH
NB02SED078H-05	3.5	5.5	ft	865	mg/kg	JH
NB02SED078H-06	5.5	7.5	ft	677	mg/kg	JH
NB02SED078H-07	7.5	9.5	ft	535	mg/kg	JH
NB02SED078H-08	9.5	11.5	ft	1,240	mg/kg	JH
NB02SED078H-09	11.5	13.5	ft	1,060	mg/kg	JH
NB02SED078H-10	13.5	15.5	ft	1,060	mg/kg	JH
NB02SED078H-11	15.5	17.5	ft	1,510	mg/kg	JH
NB02SED078H-12	17.5	19.5	ft	1,330	mg/kg	JH
NB02SED078H-13	19.5	21.5	ft	743	mg/kg	JH
NB02SED078H-14	21.5	23.5	ft	763	mg/kg	JH
NB02SED078H-15	23.5	25.5	ft	1,140	mg/kg	JH
NB02SED078H-16	25.5	27.5	ft	753	mg/kg	JH
NB02SED078H-17	27.5	29.5	ft	773	mg/kg	JH

Sample Name	Depth Start	Depth End	Depth Units	Zinc	Units	Result Qualifiers
Sample Location 052 - Phase I (CSD Site max. soil/sed. values)				15,000	mg/kg	
NB01SED052B-01	0	0.5	ft	217	mg/kg	-
NB01SED052B-02	0.5	1.5	ft	363	mg/kg	M
NB01SED052B-03	1.5	3.5	ft	910	mg/kg	M
NB01SED052B-04	3.5	6	ft	527	mg/kg	M
NB01SED052B-05	6	8.5	ft	685	mg/kg	M
NB01SED052B-06	8.5	11	ft	985	mg/kg	M

LEGEND	
Drainage ditch sample collected on Site	
Soil sample collected on Site	
N/A = Not Analyzed	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

November 17, 2008

VIA OVERNIGHT DELIVERY

Ms. Amelia M. Wagner
United States Environmental Protection Agency
Region II
290 Broadway
17th Floor
New York, NY 10007-1866

Re: Newark Bay Study Area -- Remedial Investigation Work Plan - Sediment Sampling and Source Identification Program Information – Elizabethtown Gas Company, Elizabeth, New Jersey Site.

Dear Ms. Wagner,

As a follow up to evidence presented by Tierra Solutions Inc. (Tierra) for the Newark Bay Study Area (NBSA) regarding Potentially Responsible Parties (PRPs), we are providing additional information from the Remedial Investigation Work Plan (RIWP) Phase I & II sediment sampling concerning the two (2) Elizabethtown Gas Company sites known separately as the “Erie Street Site” and the “South Street Site” (each described further below and hereafter referred to individually by its respective name, or both sites referred to together as the “Sites”).

As you are aware, Tierra presented evidence regarding the Sites in our meeting with USEPA on March 27, 2008, and provided you with a Data Extraction Form and evidentiary exhibits. The Elizabethtown Gas Company (“ETG”) has operated at two waterfront locations along the Elizabeth River in Elizabeth, Union County, New Jersey: the “Erie Street Site” and the “South Street Site,” each discussed separately below.

ERIE STREET SITE

The Erie Street Site, located at 200-234 Third St. Avenue, is comprised of a tract of land approximately 24.5 acres in size located at Third Avenue between South 2nd Street and Delaware Street, and is at a point on the Elizabeth River approximately 0.7 miles upstream of its confluence with the Arthur Kill.

The Metropolitan Gas Light Company owned a 2-acre portion of the Erie Street Site since 1857 and began coal gas operations on the Site by 1889. ETG bought Metropolitan Gas Light Company, including the 2-acre property and additional properties to the west and southwest in 1892 to establish the 24.5-acre Erie Street Site. ETG successors continue to own the Site. Utility gas has been produced, stored, and/or distributed at the Site since the beginning of operations at the Erie Street Site. “Coal gas” was manufactured from 1889 until 1915. This

gasification process involved the use of coal, coke, and oil. After 1915, coal gas production was replaced by carbureted water gas production, which generally utilized water in place of oil. Both processes, however, involved loading coal/coke into a furnace (retort) and the generation of tar as a by-product. By approximately 1927, 80,000 tons of coal was used per year; and by 1935, 500 million cubic feet of gas was produced per year.

Poor quality byproducts and process waste, including coal, coke, slag, coal tar, oils and wood chips, were landfilled mostly in the southern portion of the Erie Street Site "where they were used with other backfill materials to cover the marsh deposits" adjacent to the Elizabeth River. Historical photos show that the southern portion of the Erie Street Site near the river was once swampland. Remedial investigations have shown that the fill is generally deepest, up to 10 feet in this area.

Regular gas production was discontinued in March 1951. At that time, a new control system was built and the main business at the Erie Street Site became the distribution of natural gas. In 1966, gas production ceased completely and an alternate fuel (propane air) plant was installed in 1974. Stored propane and air were mixed to produce a gas combustible with natural gas. In 1989, ETG began storing propane and liquid natural gas ("LNG") for peak usage. The Erie Street Site continues to operate as an active natural gas storage and transfer facility. In June 1992, ETG signed a Memorandum of Agreement with the New Jersey Department of Environmental Protection ("NJDEP"), which required a remedial investigation and remedial action be conducted at the Erie Street Site.

Surface and sub-surface soil investigation analyses have detected the following hazardous substances, at the levels indicated:

• Benzene	320,000 ppb
• Xylenes	650,000 ppb
• Acenaphthene	12,000,000 ppb
• Anthracene	7,300,000 ppb
• Benzo(a)anthracene	2,700,000 ppb
• Benzo(b)fluoranthene	660,000 ppb
• Benzo(a)pyrene	1,700,000 ppb
• Benzo(k)fluoranthene	1,400,000 ppb
• Chrysene	2,600,000 ppb
• Dibenz(a,h)anthracene	5,900 ppb
• Fluoranthene	6,000,000 ppb
• Fluorene	7,700,000 ppb
• Indeno(1,2,3-cd)pyrene	620,000 ppb
• Naphthalene	30,000,000 ppb
• Pyrene	8,000,000 ppb
• Antimony	28 ppm
• Arsenic	868 ppm
• Barium	2,560 ppm
• Cadmium	90.9 ppm
• Copper	3,120 ppm

• Lead	48,500 ppm
• Mercury	41.6 ppm
• Thallium	8.8 ppm
• Zinc	4,390 ppm
• Cyanide	1,420 ppm

Erie Street Site groundwater investigation analyses involving overburden and bedrock systems have detected the following hazardous substances at the levels indicated:

• Benzene	140,000 ppb
• Ethylbenzene	2,200 ppb
• Xylenes	3,600 ppb
• 2-Methylnaphthalene	1,100,000 ppb
• Acenaphthene	260,000 ppb
• Anthracene	150,000 ppb
• Benzo(a)anthracene	64,000 ppb
• Benzo(b)fluoranthene	22,000 ppb
• Benzo(k)fluoranthene	35,000 ppb
• Benzo(a)pyrene	57,000 ppb
• Benzo(g,h,i)perylene	21,000 ppb
• Chrysene	78,000 ppb
• Dibenz(a,h)anthracene	15,000 ppb
• Dibenzofuran	37,000 ppb
• Fluorene	190,000 ppb
• Fluoranthene	120,000 ppb
• Indeno(1,2,3-cd)pyrene	17,000 ppb
• Naphthalene	1,400,000 ppb
• Phenanthrene	610,000 ppb
• Pyrene	160,000 ppb
• Antimony	0.272 ppm
• Arsenic	0.142 ppm
• Barium	2.20 ppm
• Beryllium	0.005 ppm
• Cadmium	0.221 ppm
• Lead	0.237 ppm
• Manganese	23.5 ppm
• Silver	0.037 ppm
• Thallium	0.010 ppm
• Zinc	14.5 ppm
• Ammonia	5.9 ppm
• Cyanide	14.4 ppm (adjacent to the Elizabeth River)

An "evaluation of the impact of the Erie Street former MGP site on the Elizabeth River sediments" was performed during the Remedial Investigation by ETG. Sediment samples

collected from an Elizabeth River transect adjacent to the Erie Street Site contained the following hazardous substances:

• 2-Methylnaphthalene	160,000 ppb
• Acenaphthene	73,000 ppb
• Anthracene	44,000 ppb
• Benzo(a)anthracene	23,000 ppb
• Benzo(b)fluoranthene	12,000 ppb
• Benzo(k)fluoranthene	14,000 ppb
• Benzo(a)pyrene	15,000 ppb
• Benzo(g,h,i)perylene	12,000 ppb
• Chrysene	27,000 ppb
• Dibenz(a,h)anthracene	2,700 ppb
• Dibenzofuran	7,900 ppb
• Fluorene	42,000 ppb
• Fluoranthene	44,000 ppb
• Indeno(1,2,3-cd)pyrene	9,100 ppb
• Naphthalene	160,000 ppb
• Phenanthrene	140,000 ppb
• Pyrene	78,000 ppb
• Arsenic	16 ppm
• Cadmium	18 ppm
• Copper	334 ppm
• Lead	980 ppb
• Manganese	397 ppm
• Silver	11.7 ppm
• Zinc	795 ppm
• Cyanide	1.34 ppm

As stated in the Supplemental Remedial Investigation Report, groundwater contamination is present in the overburden zone adjacent to the Elizabeth River and likely discharges to the river. Therefore, surface water samples were collected from the Elizabeth River to determine any impacts from Erie Street Site groundwater. Analysis of a surface water sample collected downstream from the Erie Street Site in the Elizabeth River detected arsenic and thallium at levels exceeding the NJDEP saline estuary Class 3 Surface Water Quality Criteria. Analysis of a surface water sample collected from a catch basin discharging to the Elizabeth River detected Benzene at 8.1 ppb.

SOUTH STREET SITE

The South Street Site is comprised of a tract of land approximately 2.7 acres and is located at a point on the Elizabeth River approximately 2 miles upstream of its confluence with the Arthur Kill.

The South Street Site was operated by ETG from 1855 to 1901 and ETG continued to own the entire 2.7-acre South Street Site until 1978-1980, when approximately half of the property was condemned and transferred to the City of Elizabeth for flood control projects. The Northern and Southern Retention Basins were created on the western portion of the South Street Site adjacent to the Elizabeth River.

Coal gas was produced on the South Street Site from 1855 to 1901 which generated waste that included coke, coal tar, light oils, clinker, coal tar pitch, ammonia, and ammonium sulfate. Coal tar generally contains high levels of polynuclear aromatic hydrocarbons (“PAHs”). Tar wastes and spent oils were believed to have been disposed in unlined pits on the South Street Site. Materials identified by United States Environmental Protection Agency (“USEPA”) contractors in 1990 as retort slag and coal tar were found in South Street Site surface and subsurface soils.

From 1901 until 1965, ETG reportedly used the South Street Site for engineering operations, pipeline storage, and dispatch for construction crews. In 1929, the New Jersey Department of Transportation (“NJDOT”) began construction of the Routes 1 and 9 viaduct over the northwestern corner of the South Street Site. From 1974 to 1979, ETG leased the South Street Site to Harvester Chemical Co., who subleased it to Vignola Salvage Corporation, a bank safe repair company. During the 1978-1980 time period, the western half of the South Street Site was condemned and transferred to the City of Elizabeth for flood control projects, including the Northern and Southern Retention Basins adjacent to the river. Beginning in 1980 to 1990, Vignola leased directly from ETG the remaining portion of the South Street Site still owned by ETG; Vignola, in turn sublet portions of the South Street Site, generally for trucking and parking.

NJDOT performed environmental investigations between 1987 and 1989 along the northern boundary related to the widening of the Routes 1 & 9 viaduct. This led to the signing of an Administrative Consent Order in April 1991 between NJDEP and ETG for the original 2.7-acre footprint owned historically by ETG. A Final Revised Remedial Investigation (“RI”) Report was issued by ETG in October 1996. In 1998, due to delays in delineating contamination in the RI reports, NJDEP required ETG to combine the remaining delineation work and a Remedial Action Plan as a “Phase II Pre-Design Investigation.” A revised version of the draft was issued in February 2006. As of July 2007, source identification and delineation of a benzene groundwater plume continues.

Surface and sub-surface soil investigation analyses detected the following hazardous substances at the levels indicated:

• Acenaphthene	220 ppm
• Anthracene	500 ppm
• Benzo(a)anthracene	2,500 ppm
• Benzo(b)fluoranthene	1,500 ppm
• Benzo(k)fluoranthene	1,400 ppm
• Benzo(a)pyrene	1,900 ppm
• Chrysene	2,800 ppm
• Dibenz(a,h)anthracene	570 ppm

• Fluoranthene	1,300 ppm
• Fluorene	2,500 ppm
• Indeno(1,2,3-cd)pyrene	1,000 ppm
• Naphthalene	3,500 ppm
• Pyrene	970 ppm
• Dibenzofuran	460 ppm
• 2,4-Dimethylphenol	12 ppm
• Benzene	82 ppm
• Ethylbenzene	181 ppm
• Total xylenes	403 ppm
• Arsenic	38.4 ppm
• Barium	1,430 ppm
• Beryllium	1.5 ppm
• Cadmium	1.9 ppm
• Lead	2,470 ppm
• Mercury	34.7 ppm
• Thallium	2.7 ppm
• Zinc	3,980 ppm
• Cyanide	2.4 ppm

Groundwater investigation analyses involving overburden and bedrock systems have detected the following hazardous substances associated with South Street Site operations:

• Benzene	4,000 ppb
• Toluene	1,400 ppb
• Xylenes	1,100 ppb
• 2-Methylphenol	580 ppb
• 4-Methylphenol	1,500 ppb
• 2,4-Dimethylphenol	1,200 ppb
• Naphthalene	2,700 ppb
• 2-Methylnaphthalene	290 ppb
• Dibenzofuran	130 ppb
• Antimony	0.040 ppm
• Arsenic	0.516 ppm
• Cadmium	0.007 ppm
• Lead	0.085 ppm
• Manganese	4.9 ppm
• Cyanide	3.9 ppm

The direction of groundwater flow in both the overburden and bedrock zones is toward the Elizabeth River.

Surface water from the Northern Retention Basin on the western portion of the South Street Site contained the following hazardous substances associated with South Street Site operations:

The direction of groundwater flow in both the overburden and bedrock zones is toward the Elizabeth River.

Surface water from the Northern Retention Basin on the western portion of the South Street Site contained the following hazardous substances associated with South Street Site operations:

• Benzo(a)anthracene	27 ppb
• Benzo(b)fluoranthene	2 ppb
• Benzo(k)fluoranthene	2 ppb
• Benzo(a)pyrene	2 ppb
• Chrysene	2 ppb
• Arsenic	0.0047 ppm
• Manganese	0.319 ppm
• Cyanide	0.114 ppm
• Total Phenols	0.015 ppm

ERIE STREET SITE AND SOUTH STREET SITE SEDIMENT DATA FROM PHASE II INVESTIGATION

Phase II Newark Bay sediment sampling and analysis conducted in October 2007, identified numerous hazardous substances associated with the Sites in Elizabeth River sediments downstream of their discharge locations, with an (*) representing the maximum value detected in the study:

• 2,3,7,8-TCDD	26.4 ppt
• Total TCDD	93.1 ppt
• OCDD	8,270 ppt
• Dioxin TEQ	79.5 ppt
• Aroclor 1242	570 ppb
• Aroclor 1254	460 ppb
• Arcolor 1260	570 ppb
• Total Aroclor PCBs	1,320 ppb
• Total Congener PCBs	2,870,000 ppt
• Chlorobenzene	9 ppb
• 1,4-Dichlorobenzene	13 ppb
• Gamma BHC (Lindane)	20 ppb
• Aldrin	4.4 ppb
• Dieldrin	29 ppb
• Bis(2-ethylhexyl)phthalate	21,000 ppb
• Naphthalene	21,000 ppb
• Fluoranthene	42,000 ppb
• Fluorene	12,000 ppb
• Pyrene	26,000 ppb
• Phenanthrene	50,000 ppb

• Benzo(a)anthracene	27 ppb
• Benzo(b)fluoranthene	2 ppb
• Benzo(k)fluoranthene	2 ppb
• Benzo(a)pyrene	2 ppb
• Chrysene	2 ppb
• Arsenic	0.0047 ppm
• Manganese	0.319 ppm
• Cyanide	0.114 ppm
• Total Phenols	0.015 ppm

ERIE STREET SITE AND SOUTH STREET SITE SEDIMENT DATA FROM PHASE II INVESTIGATION

Phase II Newark Bay sediment sampling and analysis conducted in October 2007, identified numerous hazardous substances associated with the Sites in Elizabeth River sediments downstream of their discharge locations, with an (*) representing the maximum value detected in the study:

• 2,3,7,8-TCDD	26.4 ppt
• Total TCDD	93.1 ppt
• OCDD	8,270 ppt
• Dioxin TEQ	79.5 ppt
• Aroclor 1242	570 ppb
• Aroclor 1254	460 ppb
• Arcolor 1260	570 ppb
• Total Aroclor PCBs	1,320 ppb
• Total Congener PCBs	2,870,000 ppt
• Chlorobenzene	9 ppb
• 1,4-Dichlorobenzene	13 ppb
• Gamma BHC (Lindane)	20 ppb
• Aldrin	4.4 ppb
• Dieldrin	29 ppb
• Bis(2-ethylhexyl)phthalate	21,000 ppb
• Naphthalene	21,000 ppb
• Fluoranthene	42,000 ppb
• Fluorene	12,000 ppb
• Pyrene	26,000 ppb
• Phenanthrene	50,000 ppb
• Pentachlorophenol	43 ppb * (<i>2 highest concentrations in Phase II sampling located in this sediment core</i>)
• TPH	7,100 ppb
• Arsenic	14.4 ppm
• Barium	178 ppm
• Cadmium	6.3 ppm

• Copper	332 ppm
• Cyanide	1 ppm
• Lead	494 ppm
• Manganese	320 ppm
• Mercury	3.4 ppm
• Silver	4.5 ppm
• Thallium	0.19 ppm
• Zinc	676 ppm

The information presented in the attached chart identifies data from Phase I & II NBSA sediment sampling, as well as evidence cited in the Data Extraction Form ("DEF") submitted March 27, 2008 in regard to the Sites.

NBSA sediment sampling for Phase I & II was carried out at depths ranging from 0 to 13.5 ft. Samples highlighted in yellow on the attached chart represent values detected in the highest 20% range for all samples analyzed in the Phase I & II Study, while orange highlighting depicts values in the 5% range. Red highlighting denotes the highest value found within the NBSA Phase I & II data.

In light of the previous evidence, supplemented by the most recent data presented in Phase II, it is clear that both Elizabethtown Gas Sites have contributed hazardous substances to the Newark Bay Study Area.

Should you have any questions on the information presented in this letter or the enclosed chart, please do not hesitate to contact us.

Sincerely,
The Intelligence Group


Dennis P. Farley

Enclosures

cc: Elizabeth Butler – EPA
Sara Galley, Esq. – Maxus
Paul Bluestein – Tierra Solutions, Inc
Paul W. Herring, Esq. – Andrews Kurth

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	2,3,7,8-TCDD	Units	Result Qualifiers	Total TCDD	Units	Result Qualifiers	OCDD	Units	Result Qualifiers	Dioxin TEQ	Units	Result Qualifiers
Sample Location 084 Phase II				NA			NA			NA			NA		
ER02SED084D-01	0	0.5	ft	27.3	pg/g	-	80.7	pg/g	-	6,480	pg/g	J	60.5	pg/g	-
ER02SED084D-02	0.5	1.5	ft	24.8	pg/g	-	93.1	pg/g	-	9,190	pg/g	J	72	pg/g	-
ER02SED084D-03	1.5	2.5	ft	26.4	pg/g	-	113	pg/g	-	9,640	pg/g	J	79.5	pg/g	-
ER02SED084D-04	2.5	3.5	ft	17.6	pg/g	-	69.5	pg/g	-	6,150	pg/g	J	49.3	pg/g	-
ER02SED084D-05	3.5	5.5	ft	13.2	pg/g	-	67.4	pg/g	-	5,640	pg/g	J	42.4	pg/g	-
ER02SED084D-06	5.5	7.5	ft	23.1	pg/g	-	23.1	pg/g	-	8,270	pg/g	-	66.7	pg/g	-
ER02SED084D-07	7.5	9.5	ft	0.287	pg/g	G	1.61	pg/g	-	913	pg/g	-	1.57	pg/g	-
ER02SED084D-08	9.5	11.5	ft	-	pg/g	U	-	pg/g	U	242	pg/g	-	0.461	pg/g	-
ER02SED084D-09	11.5	13.5	ft	-	pg/g	U	3.8	pg/g	-	136	pg/g	-	0.407	pg/g	-

Sample Name	Depth Start	Depth End	Depth Units	2,3,7,8-TCDD	Units	Result Qualifiers	Total TCDD	Units	Result Qualifiers	OCDD	Units	Result Qualifiers	Dioxin TEQ	Units	Result Qualifiers
Sample Location 083 Phase II				NA			NA			NA			NA		
ER02SED083G-01	0	0.5	ft	39.7	pg/g	-	168	pg/g	-	21,000	pg/g	J	122	pg/g	-
ER02SED083G-02	0.5	1.5	ft	49.8	pg/g	-	256	pg/g	-	178,000	pg/g	D,EJ	546	pg/g	-
ER02SED083G-03	1.5	2.5	ft	223	pg/g	-	412	pg/g	-	58,500	pg/g	-	389	pg/g	-
ER02SED083G-04	2.5	3.5	ft	81.3	pg/g	-	363	pg/g	-	34,700	pg/g	J	195	pg/g	-
ER02SED083G-05	3.5	5.5	ft	4.99	pg/g	-	9.23	pg/g	-	3,970	pg/g	J	12.7	pg/g	-
ER02SED083G-06	5.5	7.5	ft	-	pg/g	UJ	-	pg/g	-	315	pg/g	J	0.685	pg/g	-
ER02SED083G-07	7.5	9.5	ft	-	pg/g	UJ	0.355	pg/g	-	53	pg/g	-	0.474	pg/g	-
										Top 2 data points					

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected In Phase I and II	
Top 5% of Values Detected In Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Aroclor 1242	Units	Result Qualifiers	Aroclor 1254	Units	Result Qualifiers	Aroclor 1260	Units	Result Qualifiers	Total Aroclor PCB	Units	Result Qualifiers
Sample Location 084 Phase II				NA			NA			NA			NA		
ER02SED084D-01	0	0.5	ft	110	ug/kg	P,J	190	ug/kg	M	160	ug/kg	M	460	ug/kg	-
ER02SED084D-02	0.5	1.5	ft	210	ug/kg	P,J	270	ug/kg	M	330	ug/kg	M	810	ug/kg	J
ER02SED084D-03	1.5	2.5	ft	220	ug/kg	P, NJ	300	ug/kg	P, J	570	ug/kg	M	1,090	ug/kg	J
ER02SED084D-04	2.5	3.5	ft	150	ug/kg	P, NJ	200	ug/kg	-	200	ug/kg	-	570	ug/kg	J
ER02SED084D-05	3.5	5.5	ft	290	ug/kg	P, J	350	ug/kg	P, J	300	ug/kg	-	940	ug/kg	J
ER02SED084D-06	5.5	7.5	ft	570	ug/kg	P, NJ	460	ug/kg	-	290	ug/kg	JL	1,320	ug/kg	J
ER02SED084D-07	7.5	9.5	ft	12	ug/kg	G	-	ug/kg	-	-	ug/kg	U	12	ug/kg	-
ER02SED084D-08	9.5	11.5	ft	-	ug/kg	U	-	ug/kg	-	-	ug/kg	U	-	ug/kg	U
ER02SED084D-09	11.5	13.5	ft	-	ug/kg	U	-	ug/kg	-	-	ug/kg	U	-	ug/kg	U

Sample Name	Depth Start	Depth End	Depth Units	Aroclor 1242	Units	Result Qualifiers	Aroclor 1254	Units	Result Qualifiers	Aroclor 1260	Units	Result Qualifiers	Total Aroclor PCB's	Units	Result Qualifiers
Sample Location 083 Phase II				NA			NA			NA			NA		
ER02SED083G-01	0	0.5	ft	350	ug/kg	P, NJ	940	ug/kg	M	570	ug/kg	M	1,860	ug/kg	-
ER02SED083G-02	0.5	1.5	ft	740	ug/kg	P, J	790	ug/kg	P, J	1,500	ug/kg	D,M	3,030	ug/kg	J
ER02SED083G-03	1.5	2.5	ft	960	ug/kg	P, J	1,200	ug/kg	M	-	ug/kg	U	2,600	ug/kg	J
ER02SED083G-04	2.5	3.5	ft	340	ug/kg	-	5,800	ug/kg	-	210	ug/kg	-	1,130	ug/kg	-
ER02SED083G-05	3.5	5.5	ft	326	ug/kg	-	1,200	ug/kg	-	-	ug/kg	U	172	ug/kg	-
ER02SED083G-06	5.5	7.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED083G-07	7.5	9.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Total PCB Congeners	Units	Result Qualifiers	Benzene	Units	Result Qualifiers	Ethylbenzene	Units	Result Qualifiers
Sample Location 084 Phase II				NA			320,000 140,000	ug/kg		2,200	ug/kg	
ER02SED084D-01	0	0.5	ft	740,000	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-02	0.5	1.5	ft	1,220,000	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-03	1.5	2.5	ft	2,870,000	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-04	2.5	3.5	ft	994,000	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-05	3.5	5.5	ft	1,380,000	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-06	5.5	7.5	ft	1,950,000	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-07	7.5	9.5	ft	13,400	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-08	9.5	11.5	ft	94.9	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED084D-09	11.5	13.5	ft	15.1	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA

Sample Name	Depth Start	Depth End	Depth Units	Total PCB Congeners	Units	Result Qualifiers	Benzene	Units	Result Qualifiers	Ethylbenzene	Units	Result Qualifiers
Sample Location 083 Phase II				NA			320,000 140,000	ug/kg		2,200	ug/kg	
ER02SED083G-01	0	0.5	ft	2,160,000	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-02	0.5	1.5	ft	5,280,000	pg/g	-	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-03	1.5	2.5	ft	3,150,000	pg/g	-	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-04	2.5	3.5	ft	2,400,000	pg/g	-	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-05	3.5	5.5	ft	116,000	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-06	5.5	7.5	ft	568	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA
ER02SED083G-07	7.5	9.5	ft	196	pg/g	B	NA	ug/kg	NA	NA	ug/kg	NA

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Total Xylene	Units	Result Qualifiers	Chlorobenzene	Units	Result Qualifiers	1,2-dichlorobenzene	Units	Result Qualifiers
Sample Location 084 Phase II				650,000 3,600	ug/kg		NA			NA		
ER02SED084D-01	0	0.5	ft	NA	ug/kg	NA	-	ug/kg	U	-	ug/kg	U,M
ER02SED084D-02	0.5	1.5	ft	NA	ug/kg	NA	-	ug/kg	U	-	ug/kg	U
ER02SED084D-03	1.5	2.5	ft	NA	ug/kg	NA	-	ug/kg	U	-	ug/kg	U,M
ER02SED084D-04	2.5	3.5	ft	NA	ug/kg	NA	9	ug/kg	G,M	-	ug/kg	U,M
ER02SED084D-05	3.5	5.5	ft	NA	ug/kg	NA	5.7	ug/kg	G,M	-	ug/kg	U,M
ER02SED084D-06	5.5	7.5	ft	NA	ug/kg	NA	6.3	ug/kg	G,M	-	ug/kg	U,J
ER02SED084D-07	7.5	9.5	ft	NA	ug/kg	NA	-	ug/kg	U	-	ug/kg	U
ER02SED084D-08	9.5	11.5	ft	NA	ug/kg	NA	-	ug/kg	U	-	ug/kg	U
ER02SED084D-09	11.5	13.5	ft	NA	ug/kg	NA	-	ug/kg	U	-	ug/kg	U

Sample Name	Depth Start	Depth End	Depth Units	Total Xylene	Units	Result Qualifiers	Chlorobenzene	Units	Result Qualifiers	1,2-dichlorobenzene	Units	Result Qualifiers
Sample Location 083 Phase II				650,000 3,600	ug/kg		NA			NA		
ER02SED083G-01	0	0.5	ft	NA	ug/kg	NA	-	ug/kg	UM	-	ug/kg	U
ER02SED083G-02	0.5	1.5	ft	NA	ug/kg	NA	12	ug/kg	G,M	-	ug/kg	UJ
ER02SED083G-03	1.5	2.5	ft	NA	ug/kg	NA	-	ug/kg	U,M	-	ug/kg	UJ
ER02SED083G-04	2.5	3.5	ft	NA	ug/kg	NA	-	ug/kg	U	14	ug/kg	JH
ER02SED083G-05	3.5	5.5	ft	NA	ug/kg	NA	-	ug/kg	U	-	ug/kg	U
ER02SED083G-06	5.5	7.5	ft	NA	ug/kg	NA	-	ug/kg	U	-	ug/kg	U
ER02SED083G-07	7.5	9.5	ft	NA	ug/kg	NA	-	ug/kg	U	-	ug/kg	U

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	1,4-dichlorobenzene	Units	Result Qualifiers	Gamma BHC (Lindane)	Units	Result Qualifiers	Aldrin	Units	Result Qualifiers
Sample Location 084 Phase II				NA			NA			NA		
ER02SED084D-01	0	0.5	ft	-	ug/kg	U,M	16	ug/kg	M	-	ug/kg	U
ER02SED084D-02	0.5	1.5	ft	-	ug/kg	U	18	ug/kg	M	-	ug/kg	U
ER02SED084D-03	1.5	2.5	ft	-	ug/kg	U,M	20	ug/kg	M	3.6	ug/kg	M
ER02SED084D-04	2.5	3.5	ft	8.1	ug/kg	G,M	-	ug/kg	U	1.6	ug/kg	G,P,J
ER02SED084D-05	3.5	5.5	ft	7.8	ug/kg	G,M	-	ug/kg	U	2.2	ug/kg	G,P,J
ER02SED084D-06	5.5	7.5	ft	13	ug/kg	G,J	-	ug/kg	U	4.4	ug/kg	P,J
ER02SED084D-07	7.5	9.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED084D-08	9.5	11.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED084D-09	11.5	13.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U

Sample Name	Depth Start	Depth End	Depth Units	1,4-dichlorobenzene	Units	Result Qualifiers	Gamma BHC (Lindane)	Units	Result Qualifiers	Aldrin	Units	Result Qualifiers
Sample Location 083 Phase II				NA			NA			NA		
ER02SED083G-01	0	0.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED083G-02	0.5	1.5	ft	11	ug/kg	G,J	-	ug/kg	U	-	ug/kg	U
ER02SED083G-03	1.5	2.5	ft	8.9	ug/kg	G, JH	-	ug/kg	U	12	ug/kg	M
ER02SED083G-04	2.5	3.5	ft	26	ug/kg	JH	-	ug/kg	U	9.4	ug/kg	J
ER02SED083G-05	3.5	5.5	ft	-	ug/kg	U	-	ug/kg	U	3.8	ug/kg	-
ER02SED083G-06	5.5	7.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U
ER02SED083G-07	7.5	9.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Alpha Chlordane	Units	Result Qualifiers	Dieldrin	Units	Result Qualifiers	Bis(2-ethylhexyl)phthalate	Units	Result Qualifiers
Sample Location 084 Phase II				NA			NA			NA		
ER02SED084D-01	0	0.5	ft	23	ug/kg	P,J	10	ug/kg	P,J	10,000	ug/kg	D,B,M
ER02SED084D-02	0.5	1.5	ft	45	ug/kg	P,J	23	ug/kg	P,J	17,000	ug/kg	-
ER02SED084D-03	1.5	2.5	ft	48	ug/kg	-	21	ug/kg	P,NJ	21,000	ug/kg	G,D,M
ER02SED084D-04	2.5	3.5	ft	32	ug/kg	-	12	ug/kg	P,J	13,000	ug/kg	D,B,M
ER02SED084D-05	3.5	5.5	ft	20	ug/kg	-	19	ug/kg	P,J	15,000	ug/kg	D,B,M
ER02SED084D-06	5.5	7.5	ft	35	ug/kg	-	29	ug/kg	J	21,000	ug/kg	D
ER02SED084D-07	7.5	9.5	ft	-	ug/kg	-	-	ug/kg	U	-	ug/kg	U
ER02SED084D-08	9.5	11.5	ft	-	ug/kg	-	-	ug/kg	U	-	ug/kg	U
ER02SED084D-09	11.5	13.5	ft	-	ug/kg	-	-	ug/kg	U	-	ug/kg	U
				Top 4 data points in study								

Sample Name	Depth Start	Depth End	Depth Units	Alpha Chlordane	Units	Result Qualifiers	Dieldrin	Units	Result Qualifiers	Bis(2-ethylhexyl)phthalate	Units	Result Qualifiers
Sample Location 083 Phase II				NA			NA			NA		
ER02SED083G-01	0	0.5	ft	27	ug/kg	M	70	ug/kg	M	12,000	ug/kg	D,M
ER02SED083G-02	0.5	1.5	ft	26	ug/kg	M	33	ug/kg	P, NJ	44,000	ug/kg	D,M
ER02SED083G-03	1.5	2.5	ft	20	ug/kg	M	83	ug/kg	M	48,000	ug/kg	D,M
ER02SED083G-04	2.5	3.5	ft	5.4	ug/kg	M	52	ug/kg	-	8,900	ug/kg	D
ER02SED083G-05	3.5	5.5	ft	-	ug/kg	U	120	ug/kg	D	250	ug/kg	G, JH
ER02SED083G-06	5.5	7.5	ft	-	ug/kg	U	-	ug/kg	U	31	ug/kg	G, JH
ER02SED083G-07	7.5	9.5	ft	-	ug/kg	U	-	ug/kg	U	34	ug/kg	G

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Butylbenzylphthalate	Units	Result Qualifiers	Naphthalene	Units	Result Qualifiers	Acenaphthene	Units	Result Qualifiers
Sample Location 084 Phase II				NA			30,000,000 1,400,000 160,000	ug/kg		12,000,000 260,000 73,000	ug/kg	
ER02SED084D-01	0	0.5	ft	270	ug/kg	G,D,M	78	ug/kg	D,B,M	270	ug/kg	D,M
ER02SED084D-02	0.5	1.5	ft	460	ug/kg	G,D,M	270	ug/kg	D,B,M	1,800	ug/kg	D,M
ER02SED084D-03	1.5	2.5	ft	370	ug/kg	G,D,M	630	ug/kg	G,D,M	4,800	ug/kg	D,M
ER02SED084D-04	2.5	3.5	ft	160	ug/kg	G,D	14,000	ug/kg	D	6,600	ug/kg	D
ER02SED084D-05	3.5	5.5	ft	250	ug/kg	G,D	11,000	ug/kg	D	6,700	ug/kg	D
ER02SED084D-06	5.5	7.5	ft	-	ug/kg	UJ	21,000	ug/kg	D	22,000	ug/kg	D
ER02SED084D-07	7.5	9.5	ft	28	ug/kg	G	7,800	ug/kg	D	4,800	ug/kg	D
ER02SED084D-08	9.5	11.5	ft	-	ug/kg	U	25	ug/kg	B,J	9	ug/kg	-
ER02SED084D-09	11.5	13.5	ft	21	ug/kg	G,JH	-	ug/kg	U	1	ug/kg	G,JH
										2nd highest data point in the Phase I & II study		

Sample Name	Depth Start	Depth End	Depth Units	Butylbenzylphthalate	Units	Result Qualifiers	Naphthalene	Units	Result Qualifiers	Acenaphthene	Units	Result Qualifiers
Sample Location 083 Phase II				NA			30,000,000 1,400,000 160,000	ug/kg		12,000,000 260,000 73,000	ug/kg	
ER02SED083G-01	0	0.5	ft	700	ug/kg	M	230	ug/kg	B,D,M	340	ug/kg	D,M
ER02SED083G-02	0.5	1.5	ft	190	ug/kg	G,D,M	640	ug/kg	B,D,M	2,500	ug/kg	D,M
ER02SED083G-03	1.5	2.5	ft	190	ug/kg	G,D,M	490	ug/kg	G,D,M	910	ug/kg	G,D,M
ER02SED083G-04	2.5	3.5	ft	-	ug/kg	UD	1,900	ug/kg	D,J	4,800	ug/kg	D,J
ER02SED083G-05	3.5	5.5	ft	-	ug/kg	U	47	ug/kg	B	110	ug/kg	G,JH
ER02SED083G-06	5.5	7.5	ft	-	ug/kg	U	-	ug/kg	U	1.4	ug/kg	G
ER02SED083G-07	7.5	9.5	ft	-	ug/kg	U	-	ug/kg	U	1.5	ug/kg	G

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Anthracene	Units	Result Qualifiers	Benzo(a)anthracene	Units	Result Qualifiers	Benzo(b)flouranthene	Units	Result Qualifiers
Sample Location 084 Phase II				7,300,000 150,000 44,000	ug/kg		2,700,000 64,000 23,000	ug/kg		1,500,000 22,000 12,000	ug/kg	
ER02SED084D-01	0	0.5	ft	500	ug/kg	G,D,M	2,300	ug/kg	D,M	3,300	ug/kg	D,M
ER02SED084D-02	0.5	1.5	ft	1,700	ug/kg	D,M	3,800	ug/kg	D,M	5,700	ug/kg	D,M
ER02SED084D-03	1.5	2.5	ft	3,700	ug/kg	D,M	4,100	ug/kg	D,M	3,700	ug/kg	D,J
ER02SED084D-04	2.5	3.5	ft	4,000	ug/kg	D	3,700	ug/kg	D	3,400	ug/kg	D,J
ER02SED084D-05	3.5	5.5	ft	4,900	ug/kg	D	4,700	ug/kg	D	4,800	ug/kg	D,J
ER02SED084D-06	5.5	7.5	ft	17,000	ug/kg	D	13,000	ug/kg	D	9,400	ug/kg	D
ER02SED084D-07	7.5	9.5	ft	1,900	ug/kg	-	500	ug/kg	-	190	ug/kg	D,J
ER02SED084D-08	9.5	11.5	ft	2	ug/kg	G	1	ug/kg	G	2	ug/kg	G,J
ER02SED084D-09	11.5	13.5	ft	-	ug/kg	U	-	ug/kg	UJ	-	ug/kg	UJ

Sample Name	Depth Start	Depth End	Depth Units	Anthracene	Units	Result Qualifiers	Benzo(a)anthracene	Units	Result Qualifiers	Benzo(b)flouranthene	Units	Result Qualifiers
Sample Location 083 Phase II				7,300,000 150,000 44,000	ug/kg		2,700,000 64,000 23,000	ug/kg		1,500,000 22,000 12,000	ug/kg	
ER02SED083G-01	0	0.5	ft	1,600	ug/kg	J	4,200	ug/kg	M	4,600	ug/kg	M
ER02SED083G-02	0.5	1.5	ft	2,800	ug/kg	D,M	4,800	ug/kg	D,M	4,900	ug/kg	D,M
ER02SED083G-03	1.5	2.5	ft	1,200	ug/kg	D,M	3,300	ug/kg	D,M	4,600	ug/kg	D,M
ER02SED083G-04	2.5	3.5	ft	5,500	ug/kg	D,J	6,700	ug/kg	D,M	5,500	ug/kg	D,M
ER02SED083G-05	3.5	5.5	ft	39	ug/kg	G,JH	64	ug/kg	G,JH	57	ug/kg	G,JH
ER02SED083G-06	5.5	7.5	ft	2	ug/kg	G	1.8	ug/kg	G	2.3	ug/kg	G
ER02SED083G-07	7.5	9.5	ft	2	ug/kg	G	2	ug/kg	G	2.2	ug/kg	G

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Benzo(a)pyrene	Units	Result Qualifiers	Benzo(k)fluoranthene	Units	Result Qualifiers	Chrysene	Units	Result Qualifiers
Sample Location 084 Phase II				1,900,000 57,000 15,000	ug/kg		1,400,000 35,000 14,000	ug/kg		2,800,000 78,000 27,000	ug/kg	
ER02SED084D-01	0	0.5	ft	2,700	ug/kg	D,M	3,500	ug/kg	D,M	3,300	ug/kg	D,M
ER02SED084D-02	0.5	1.5	ft	3,800	ug/kg	D,M	4,200	ug/kg	D,M	5,000	ug/kg	D,M
ER02SED084D-03	1.5	2.5	ft	3,800	ug/kg	D,J	4,600	ug/kg	D,J	4,900	ug/kg	D,M
ER02SED084D-04	2.5	3.5	ft	3,500	ug/kg	D,J	3,700	ug/kg	D,J	4,200	ug/kg	D
ER02SED084D-05	3.5	5.5	ft	4,300	ug/kg	D,J	4,000	ug/kg	D,J	5,400	ug/kg	D
ER02SED084D-06	5.5	7.5	ft	8,800	ug/kg	D	5,400	ug/kg	D	15,000	ug/kg	D
ER02SED084D-07	7.5	9.5	ft	390	ug/kg	-	250	ug/kg	D,J	510	ug/kg	-
ER02SED084D-08	9.5	11.5	ft	-	ug/kg	UJ	1	ug/kg	G,J	1	ug/kg	G
ER02SED084D-09	11.5	13.5	ft	-	ug/kg	U	-	ug/kg	UJ	-	ug/kg	UJ

Sample Name	Depth Start	Depth End	Depth Units	Benzo(a)pyrene	Units	Result Qualifiers	Benzo(k)fluoranthene	Units	Result Qualifiers	Chrysene	Units	Result Qualifiers
Sample Location 083 Phase II				1,900,000 57,000 15,000	ug/kg		1,400,000 35,000 14,000	ug/kg		2,800,000 78,000 27,000	ug/kg	
ER02SED083G-01	0	0.5	ft	3,300	ug/kg	M	2,500	ug/kg	M	4,300	ug/kg	M
ER02SED083G-02	0.5	1.5	ft	4,200	ug/kg	M	4,700	ug/kg	D,M	5,500	ug/kg	D,M
ER02SED083G-03	1.5	2.5	ft	3,500	ug/kg	D,M	3,800	ug/kg	D,M	4,200	ug/kg	D,M
ER02SED083G-04	2.5	3.5	ft	5,000	ug/kg	D	5,300	ug/kg	D	7,400	ug/kg	D
ER02SED083G-05	3.5	5.5	ft	59	ug/kg	G,JH	51	ug/kg	-	74	ug/kg	G,JH
ER02SED083G-06	5.5	7.5	ft	-	ug/kg	U	2	ug/kg	G	2	ug/kg	G
ER02SED083G-07	7.5	9.5	ft	-	ug/kg	U	2	ug/kg	G	2	ug/kg	G

LEGEND

NA = Not Analyzed

Soil sample collected on Sites

Groundwater sample collected on Sites

Sediment/Surface Water sample collected on Sites

Highest Value Detected in Phase I and II

Top 5% of Values Detected in Phase I and II

Top 20% of Values Detected in Phase I and II

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Dibenz(a,h)anthracene	Units	Result Qualifiers	Indeno(1,2,3-cd)pyrene	Units	Result Qualifiers
Sample Location 084 Phase II				570,000 15,000 2,700	ug/kg		1,000,000 17,000 9,100	ug/kg	
ER02SED084D-01	0	0.5	ft	220	ug/kg	D,G,M	890	ug/kg	D,M
ER02SED084D-02	0.5	1.5	ft	380	ug/kg	D,G,M	1,300	ug/kg	D,M
ER02SED084D-03	1.5	2.5	ft	340	ug/kg	G,D,J	1,200	ug/kg	D,J
ER02SED084D-04	2.5	3.5	ft	330	ug/kg	G,D,J	1,100	ug/kg	D,J
ER02SED084D-05	3.5	5.5	ft	340	ug/kg	G,D,J	1,200	ug/kg	D,J
ER02SED084D-06	5.5	7.5	ft	1,800	ug/kg	D	6,300	ug/kg	D
ER02SED084D-07	7.5	9.5	ft	67	ug/kg	D,J	190	ug/kg	D,J
ER02SED084D-08	9.5	11.5	ft	-	ug/kg	UJ	-	ug/kg	UJ
ER02SED084D-09	11.5	13.5	ft	-	ug/kg	UJ	-	ug/kg	UJ

Sample Name	Depth Start	Depth End	Depth Units	Dibenz(a,h)anthracene	Units	Result Qualifiers	Indeno(1,2,3-cd)pyrene	Units	Result Qualifiers
Sample Location 083 Phase II				570,000 15,000 2,700	ug/kg		1,000,000 17,000 9,100	ug/kg	
ER02SED083G-01	0	0.5	ft	680	ug/kg	M	1,900	ug/kg	M
ER02SED083G-02	0.5	1.5	ft	770	ug/kg	D,M	1,000	ug/kg	G,D,M
ER02SED083G-03	1.5	2.5	ft	280	ug/kg	G,D,M	940	ug/kg	G,D,M
ER02SED083G-04	2.5	3.5	ft	1,000	ug/kg	D,J	1,100	ug/kg	D
ER02SED083G-05	3.5	5.5	ft	10	ug/kg	-	34	ug/kg	-
ER02SED083G-06	5.5	7.5	ft	-	ug/kg	U	1	ug/kg	G
ER02SED083G-07	7.5	9.5	ft	-	ug/kg	U	1	ug/kg	G

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Fluoranthene	Units	Result Qualifiers	Fluorene	Units	Result Qualifiers	Pyrene	Units	Result Qualifiers
Sample Location 084 Phase II				6,000,000 120,000 44,000	ug/kg		7,700,000 190,000 42,000	ug/kg		8,000,000 160,000 78,000	ug/kg	
ER02SED084D-01	0	0.5	ft	6,300	ug/kg	D,M	210	ug/kg	D,M	4,500	ug/kg	D,M
ER02SED084D-02	0.5	1.5	ft	9,500	ug/kg	D,M	500	ug/kg	D,M	9,500	ug/kg	D,M
ER02SED084D-03	1.5	2.5	ft	10,000	ug/kg	D,M	1,400	ug/kg	D,M	10,000	ug/kg	D,M
ER02SED084D-04	2.5	3.5	ft	11,000	ug/kg	D	4,000	ug/kg	D	11,000	ug/kg	D
ER02SED084D-05	3.5	5.5	ft	12,000	ug/kg	D	3,700	ug/kg	D	11,000	ug/kg	D
ER02SED084D-06	5.5	7.5	ft	42,000	ug/kg	D	12,000	ug/kg	D	26,000	ug/kg	D
ER02SED084D-07	7.5	9.5	ft	2,200	ug/kg	-	2,400	ug/kg	-	2,200	ug/kg	-
ER02SED084D-08	9.5	11.5	ft	3.8	ug/kg	G,J	1	ug/kg	G	-	ug/kg	R
ER02SED084D-09	11.5	13.5	ft	1.3	ug/kg	G,JH	-	ug/kg	U	-	ug/kg	U

Sample Name	Depth Start	Depth End	Depth Units	Fluoranthene	Units	Result Qualifiers	Fluorene	Units	Result Qualifiers	Pyrene	Units	Result Qualifiers
Sample Location 083 Phase II				6,000,000 120,000 44,000	ug/kg		7,700,000 190,000 42,000	ug/kg		8,000,000 160,000 78,000	ug/kg	
ER02SED083G-01	0	0.5	ft	5,100	ug/kg	J	250	ug/kg	D,M	7,000	ug/kg	D,M
ER02SED083G-02	0.5	1.5	ft	20,000	ug/kg	D,M	1,300	ug/kg	D,D	10,000	ug/kg	D,M
ER02SED083G-03	1.5	2.5	ft	13,000	ug/kg	D,M	540	ug/kg	G,D,M	6,900	ug/kg	D,M
ER02SED083G-04	2.5	3.5	ft	18,000	ug/kg	D	1,100	ug/kg	D,J	13,000	ug/kg	D,M
ER02SED083G-05	3.5	5.5	ft	250	ug/kg	G,JH	9	ug/kg	-	180	ug/kg	G,JH
ER02SED083G-06	5.5	7.5	ft	5	ug/kg	J	-	ug/kg	U	-	ug/kg	U
ER02SED083G-07	7.5	9.5	ft	5	ug/kg	J	-	ug/kg	U	-	ug/kg	U

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Phenanthrene	Units	Result Qualifiers	Pentachlorophenol	Units	Result Qualifiers	TPH	Units	Result Qualifiers
Sample Location 084 Phase II				610,000 140,000	ug/kg		NA			NA		
ER02SED084D-01	0	0.5	ft	1,800	ug/kg	D,M	-	ug/kg	UD	3,600	mg/kg	B,D,M
ER02SED084D-02	0.5	1.5	ft	4,000	ug/kg	D,M	-	ug/kg	D, UJ	4,700	mg/kg	B,D,M
ER02SED084D-03	1.5	2.5	ft	7,600	ug/kg	D,M	-	ug/kg	D, UJ	4,500	mg/kg	B,D,M
ER02SED084D-04	2.5	3.5	ft	17,000	ug/kg	D	43	ug/kg	G, DJ	3,700	mg/kg	B,D,M
ER02SED084D-05	3.5	5.5	ft	17,000	ug/kg	D	35	ug/kg	G, DJ	3,700	mg/kg	B,D
ER02SED084D-06	5.5	7.5	ft	50,000	ug/kg	D	-	ug/kg	D, UJL	7,100	mg/kg	B,D
ER02SED084D-07	7.5	9.5	ft	7,100	ug/kg	D	-	ug/kg	UD	230	mg/kg	B
ER02SED084D-08	9.5	11.5	ft	3.8	ug/kg	G	-	ug/kg	UJ	-	mg/kg	U
ER02SED084D-09	11.5	13.5	ft	1.2	ug/kg	G, JH	-	ug/kg	UJ	-	mg/kg	U
							Top 2 data points in the Phase II Study					

Sample Name	Depth Start	Depth End	Depth Units	Phenanthrene	Units	Result Qualifiers	Pentachlorophenol	Units	Result Qualifiers	TPH	Units	Result Qualifiers
Sample Location 083 Phase II				610,000 140,000	ug/kg		NA			NA		
ER02SED083G-01	0	0.5	ft	630	ug/kg	J	-	ug/kg	U,D,M	3,300	mg/kg	B,D,M
ER02SED083G-02	0.5	1.5	ft	690	ug/kg	D,M	-	ug/kg	D,UJ	6,400	mg/kg	B,D,M
ER02SED083G-03	1.5	2.5	ft	3,500	ug/kg	D,M	-	ug/kg	D,UJ	6,400	mg/kg	B,D,M
ER02SED083G-04	2.5	3.5	ft	13,000	ug/kg	DJ	-	ug/kg	UD	2,400	mg/kg	B,D
ER02SED083G-05	3.5	5.5	ft	35	ug/kg	-	-	ug/kg	UJ	200	mg/kg	B
ER02SED083G-06	5.5	7.5	ft	3	ug/kg	G	-	ug/kg	UJ	-	mg/kg	U
ER02SED083G-07	7.5	9.5	ft	3	ug/kg	G	-	ug/kg	UJ	-	mg/kg	U

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Antimony	Units	Result Qualifiers	Arsenic	Units	Result Qualifiers	Barium	Units	Result Qualifiers	Cadmium	Units	Result Qualifiers
Sample Location 084 Phase II				28 0.272			868 0.52 16			2,560 2.2			91 7 18		
ER02SED084D-01	0	0.5	ft	-	mg/kg	N,UJL	7.9	mg/kg	M	127	mg/kg	M	3.7	mg/kg	M
ER02SED084D-02	0.5	1.5	ft	-	mg/kg	N,UJL	8.3	mg/kg	M	149	mg/kg	M	6.3	mg/kg	M
ER02SED084D-03	1.5	2.5	ft	-	mg/kg	N,UJL	8.7	mg/kg	M	144	mg/kg	M	6	mg/kg	M
ER02SED084D-04	2.5	3.5	ft	-	mg/kg	N,UJL	6.8	mg/kg	-	157	mg/kg	-	4	mg/kg	-
ER02SED084D-05	3.5	5.5	ft	-	mg/kg	N,UJL	10.8	mg/kg	-	160	mg/kg	-	5.4	mg/kg	-
ER02SED084D-06	5.5	7.5	ft	-	mg/kg	N,UJL	14.4	mg/kg	-	178	mg/kg	-	10.1	mg/kg	-
ER02SED084D-07	7.5	9.5	ft	-	mg/kg	N,UJL	7	mg/kg	-	39	mg/kg	-	0.22	mg/kg	B
ER02SED084D-08	9.5	11.5	ft	-	mg/kg	N,UJL	4.4	mg/kg	-	97	mg/kg	-	0.13	mg/kg	B
ER02SED084D-09	11.5	13.5	ft	-	mg/kg	N,UJL	0.25	mg/kg	B	47.2	mg/kg	-	0.13	mg/kg	B

Sample Name	Depth Start	Depth End	Depth Units	Antimony	Units	Result Qualifiers	Arsenic	Units	Result Qualifiers	Barium	Units	Result Qualifiers	Cadmium	Units	Result Qualifiers
Sample Location 083 Phase II				28 0.272			868 0.52 16			2,560 2.2			91 7 18		
ER02SED083G-01	0	0.5	ft	440	mg/kg	N, *, JL	30	mg/kg	M	406	mg/kg		8.1	mg/kg	* M
ER02SED083G-02	0.5	1.5	ft	166	mg/kg	N, *, JL	22.9	mg/kg	M	371	mg/kg		13.1	mg/kg	* M
ER02SED083G-03	1.5	2.5	ft	136	mg/kg	N, *, JL	26.9	mg/kg	-	357	mg/kg		12	mg/kg	* M
ER02SED083G-04	2.5	3.5	ft	444	mg/kg	N, *, JL	20.8	mg/kg	-	447	mg/kg		6.4	mg/kg	*
ER02SED083G-05	3.5	5.5	ft	31.8	mg/kg	N, *, JL	6.6	mg/kg	-	117	mg/kg		2.2	mg/kg	* J
ER02SED083G-06	5.5	7.5	ft	-	mg/kg	UJL	4.3	mg/kg	-	103	mg/kg		0.13	mg/kg	* J
ER02SED083G-07	7.5	9.5	ft	-	mg/kg	UJL	0.23	mg/kg	-	96.1	mg/kg		0.15	mg/kg	* J
				Top 5 data points											

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Copper	Units	Result Qualifiers	Cyanide	Units	Result Qualifiers	Lead	Units	Result Qualifiers
Sample Location 084 Phase II				3,120 334	mg/kg		1,420 14	mg/kg		48,500 0.23 980	mg/kg	
ER02SED084D-01	0	0.5	ft	332	mg/kg	M	0.54	mg/kg	B,M	388	mg/kg	M
ER02SED084D-02	0.5	1.5	ft	326	mg/kg	M	0.58	mg/kg	B,M	494	mg/kg	M
ER02SED084D-03	1.5	2.5	ft	288	mg/kg	M	0.52	mg/kg	B,M	481	mg/kg	M
ER02SED084D-04	2.5	3.5	ft	202	mg/kg	-	0.72	mg/kg	B	379	mg/kg	-
ER02SED084D-05	3.5	5.5	ft	256	mg/kg	-	1	mg/kg	B	388	mg/kg	-
ER02SED084D-06	5.5	7.5	ft	299	mg/kg	-	0.93	mg/kg	B, N, JL	253	mg/kg	E,*,J
ER02SED084D-07	7.5	9.5	ft	15	mg/kg	-	0.19	mg/kg	B, N, JL	47.1	mg/kg	E,*,J
ER02SED084D-08	9.5	11.5	ft	14.8	mg/kg	-	-	mg/kg	N, UJL	12.6	ug/kg	E,*,J
ER02SED084D-09	11.5	13.5	ft	13	mg/kg	-	-	mg/kg	N, UJL	9.3	ug/kg	E,J

Sample Name	Depth Start	Depth End	Depth Units	Copper	Units	Result Qualifiers	Cyanide	Units	Result Qualifiers	Lead	Units	Result Qualifiers
Sample Location 083 Phase II				3,120 334	mg/kg		1,420 14	mg/kg		48,500 0.23 980	mg/kg	
ER02SED083G-01	0	0.5	ft	552	mg/kg	M	1	mg/kg	B, *, JL	1,000	mg/kg	*, M
ER02SED083G-02	0.5	1.5	ft	469	mg/kg	M	2.2	mg/kg	B, *, JL	679	mg/kg	*, M
ER02SED083G-03	1.5	2.5	ft	570	mg/kg	M	4.5	mg/kg	N, *, JL	89.2	mg/kg	*, M
ER02SED083G-04	2.5	3.5	ft	199	mg/kg	-	6.7	mg/kg	N, *, JL	405	mg/kg	*
ER02SED083G-05	3.5	5.5	ft	25.5	mg/kg	-	0.67	mg/kg	B, *, JL	147	mg/kg	*
ER02SED083G-06	5.5	7.5	ft	11	mg/kg	-	-	mg/kg	N, *, UJL	9.9	mg/kg	*
ER02SED083G-07	7.5	9.5	ft	14.1	mg/kg	-	-	mg/kg	N, *, UJL	10.6	mg/kg	*

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Manganese	Units	Result Qualifiers	Mercury	Units	Result Qualifiers	Silver	Units	Result Qualifiers
Sample Location 084 Phase II				23.5 397	mg/kg		35	mg/kg		0.04 12	mg/kg	
ER02SED084D-01	0	0.5	ft	199	mg/kg	EJ	1.6	mg/kg	-	3	mg/kg	N,JL
ER02SED084D-02	0.5	1.5	ft	232	mg/kg	EJ	1.7	mg/kg	M	4.5	mg/kg	N,JL
ER02SED084D-03	1.5	2.5	ft	206	mg/kg	EJ	0.99	mg/kg	M	5	mg/kg	N,JL
ER02SED084D-04	2.5	3.5	ft	177	mg/kg	EJ	0.35	mg/kg	-	2.9	mg/kg	N,JL
ER02SED084D-05	3.5	5.5	ft	208	mg/kg	EJ	0.35	mg/kg	-	4.3	mg/kg	N,JL
ER02SED084D-06	5.5	7.5	ft	212	mg/kg	-	3.4	mg/kg	-	-	mg/kg	R
ER02SED084D-07	7.5	9.5	ft	320	mg/kg	-	0.18	mg/kg	B	-	mg/kg	R
ER02SED084D-08	9.5	11.5	ft	194	mg/kg	-	0.019	ug/kg	-	-	mg/kg	R
ER02SED084D-09	11.5	13.5	ft	172	mg/kg	-	-	ug/kg	U	-	mg/kg	R

Sample Name	Depth Start	Depth End	Depth Units	Manganese	Units	Result Qualifiers	Mercury	Units	Result Qualifiers	Silver	Units	Result Qualifiers
Sample Location 083 Phase II				23.5 397	mg/kg		35	mg/kg		0.04 12	mg/kg	
ER02SED083G-01	0	0.5	ft	307	mg/kg	M	5.7	mg/kg	N, * JH	4.7	mg/kg	N,JL
ER02SED083G-02	0.5	1.5	ft	309	mg/kg	M	9.6	mg/kg	N, * JH	11	mg/kg	N,JL
ER02SED083G-03	1.5	2.5	ft	366	mg/kg	M	11.7	mg/kg	N, * JH	8	mg/kg	N,JL
ER02SED083G-04	2.5	3.5	ft	177	mg/kg	-	1.8	mg/kg	N, * JH	1.3	mg/kg	N,JL
ER02SED083G-05	3.5	5.5	ft	262	mg/kg	-	-	mg/kg	U,N,*	0.046	mg/kg	B,N,JL
ER02SED083G-06	5.5	7.5	ft	145	mg/kg	-	-	mg/kg	U,N,*	0.016	mg/kg	B,N,JL
ER02SED083G-07	7.5	9.5	ft	178	mg/kg	-	-	mg/kg	U,N,*	0.015	mg/kg	B,N,JL

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

ELIZABETHTOWN GAS COMPANY
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Thallium	Units	Result Qualifiers	Zinc	Units	Result Qualifiers
Sample Location 084 Phase II				8.8 0.01	mg/kg		4,390 14.5 795	mg/kg	
ER02SED084D-01	0	0.5	ft	0.16	mg/kg	B,M	676	mg/kg	M
ER02SED084D-02	0.5	1.5	ft	0.18	mg/kg	B,M	627	mg/kg	M
ER02SED084D-03	1.5	2.5	ft	0.15	mg/kg	B,M	506	mg/kg	M
ER02SED084D-04	2.5	3.5	ft	0.11	mg/kg	B	364	mg/kg	-
ER02SED084D-05	3.5	5.5	ft	0.16	mg/kg	B	536	mg/kg	-
ER02SED084D-06	5.5	7.5	ft	0.19	mg/kg	B	661	mg/kg	EJ
ER02SED084D-07	7.5	9.5	ft	0.15	mg/kg	B	55.3	mg/kg	EJ
ER02SED084D-08	9.5	11.5	ft	0.14	mg/kg	B	60.1	mg/kg	EJ
ER02SED084D-09	11.5	13.5	ft	0.16	mg/kg	B	55.5	mg/kg	EJ

Sample Name	Depth Start	Depth End	Depth Units	Thallium	Units	Result Qualifiers	Zinc	Units	Result Qualifiers
Sample Location 083 Phase II				8.8 0.01	mg/kg		4,390 14.5 795	mg/kg	
ER02SED083G-01	0	0.5	ft	0.29	mg/kg	B,M	821	mg/kg	M
ER02SED083G-02	0.5	1.5	ft	0.26	mg/kg	B,M	805	mg/kg	M
ER02SED083G-03	1.5	2.5	ft	0.29	mg/kg	B,M	826	mg/kg	-
ER02SED083G-04	2.5	3.5	ft	0.23	mg/kg	-	96.2	mg/kg	-
ER02SED083G-05	3.5	5.5	ft	0.13	mg/kg	B	42.8	mg/kg	-
ER02SED083G-06	5.5	7.5	ft	0.12	mg/kg	B	52.7	mg/kg	-
ER02SED083G-07	7.5	9.5	ft	0.16	mg/kg	B	-	mg/kg	-

LEGEND	
NA = Not Analyzed	
Soil sample collected on Sites	
Groundwater sample collected on Sites	
Sediment/Surface Water sample collected on Sites	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

November 17, 2008

VIA OVERNIGHT DELIVERY

Ms. Amelia M. Wagner
United States Environmental Protection Agency
Region II
290 Broadway
17th Floor
New York, NY 10007-1866

Re: Newark Bay Study Area -- Remedial Investigation Work Plan - Sediment Sampling and Source Identification Program Information – Exxon Mobil Corporation, Bayonne, New Jersey Site.

Dear Ms. Wagner,

As a follow up to evidence presented by Tierra Solutions Inc. (Tierra) for the Newark Bay Study Area (NBSA) regarding Potentially Responsible Parties (PRPs), we are providing additional information from the Remedial Investigation Work Plan (RIWP) Phase I & II sediment investigation concerning the Exxon Mobil Corporation (“Exxon Mobil”), Bayonne, New Jersey site (the “Site”).

As you are aware, Tierra presented evidence regarding the Site in our meeting with USEPA on May 23, 2007, and provided you with a Data Extraction Form and evidentiary exhibits. The Site is a 288-acre facility (250 acres land and 38 acres riparian waterfront) that is situated on the Upper New York Bay to the north and east, and on the Kill Van Kull waterway to the south. The Kill Van Kull connects New York Bay to Newark Bay to the west. Platty Kill Creek, a tributary to Kill Van Kull, runs along the western side of the Site. There were three active piers at the Site during the facilities’ operations -- the piers designated as No.1, No.6, and No. 7.

From 1877 to 1972, the primary activity at the Site (by predecessor, Standard Oil of New Jersey) was petroleum refining. Processes included distilling crude oil into various fractions or components, blending and shipping of lubricating oils, manufacturing asphalt, and producing wax. Chemical manufacturing began in the early 1930s, using an on-Site laboratory for product testing and research. During World War II, the Federal Government, through its “Defense Plant Corporation,” took over the Exxon Mobil Bayonne Plant, as well as the Company’s Bayway Plant in Linden, New Jersey.

From 1952 through the 1960s, the area to the north of Lower Hook Road and the Bayonne Plant was operated by the City of Bayonne as a municipal dump. From 1950 through the late 1960s, a methyl ethyl ketone plant was operated by Exxon Mobil at the Site, where wax was purified using hazardous substances such as methyl ethyl ketone and toluene.

The Bayonne Site, as well as the Exxon facility in Linden, manufactured a pesticide called “FLIT” sometime during the 1920s-1960s. An active ingredient in FLIT was DDT. From 1971 to 1972, all refining and manufacturing operations at the Site were shut down, with the exception of operations in

Exxon Mobil's Chemicals Plant Area. In 1972, the refining operations were dismantled, the wax manufacturing operations ceased, and Site operations primarily consisted of petroleum products storage, wholesale distribution with various blending and packaging operations, and oil additives manufacturing. Dismantling of the Chemical Plant began in 1991; and the majority of the Site was sold by Exxon Mobil to International Matex Tank Terminals in 1993.

The Site utilizes its own wastewater treatment plants. The West Side Treatment Plant is in close proximity to the Platty Kill Canal, while the East Side Plant is near the confluence of the Kill Van Kull and Upper New York Bay. In addition, a "chemical waste treatment plant" is centrally located within the Site.

In 1986 and 1987, Exxon Mobil reported to NJDEP exceedances for chlorobenzene, ethylbenzene, oil, grease, and toluene, all of which Exxon Mobil was required to monitor. The same year, nine areas in the Site's sewer system were investigated and found to have "significant concentrations of organic compounds." Exxon Mobil evaluated its major sewer lines and reported that several pipes were severely cracked or broken. It was determined that six main trunks of the Bayonne sewer line were in close proximity to the Site. NJDEP temporarily allowed Exxon Mobil to convey the recovered oil product from site remediation activities to the West Side Treatment Plant via these existing sewer lines.

Regulatory documents indicate that a historic drainage ditch leading from the Site to New York Bay discharged various Site wastes to the Bay without any permit:

"DEP documents unequivocally indicate that . . . oil, as well as other contaminants including organic, inorganic and heavy metal wastes, are there and in other areas of the Hook as a result of practices of Exxon Mobil and other entities dating back as early as 1877, [and] discharge into the drainage ditch and subsequently into New York Bay. This has been documented for at least 20 years, when it was observed that there were "hundreds of gallons of oil" in this ditch, and has and is continually occurring without a NJPDES permit."

According to written testimony submitted in connection with a lawsuit filed in US District Court captioned as "New Jersey Department of Environmental Protection, et al v. Exxon Mobil Corporation," combined dockets 04-4897 (DMC) and 04-4898 (DMC), conditions existed at the Bayonne Site during the WWII era that may have impacted the environment. These conditions included the failure of Exxon Mobil to supply catch basins beneath the wooden loading/unloading transfer racks that were used to transfer petroleum products from rail tank cars to the storage tanks. Releases of petroleum products to the ground occurred frequently at this time.

The materials that reportedly have been formulated, utilized, handled or disposed of by Exxon Mobil manufacturing, blending, and storage operations at the Site include, without limitation:

- FLIT
- Naphtha
- Aviation gas
- Aliphatic and aromatic solvents
- Distillate fuels
- Fuel, lube, and process oils

- Waxes
- Asphalt
- Petroleum additives

Historic spills, leaks, and discharges of hazardous substances from operations at the Site are known to have included the following:

- Toluene
- Cyclohexane
- Naphthalene
- Xylene
- Isopar L
- Heating Oil
- No. 2 Fuel Oil
- No. 6 Oil (F-942)
- Process Gas Oil
- Lube Oil
- Lube Base Oil
- Lube Oil additive
- Raw Lube Oil (Coray 220)
- Slop Oil
- Turbo Oil
- Gear Oil
- Blend Oil
- Electric Insulating Oil
- Univolt 60
- 1919 Motor Oil
- Exxon Mobil Formula No. 1367
- Exxon Mobil Formula No. 82899
- Exxon Mobil Formula No. 80831
- Exxon Mobil Formula No. 81348
- Exxon Mobil Formula No. 80682
- Exxon Mobil Formula No. 81744
- EXXMARX 70-5720
- Nuto H-46
- F540
- Diesel fuel
- Wax
- Emulsion
- 1941 ATF (automatic transmission fuel)
- Asphalt

Soil samples collected on Site detected the following hazardous substances:

- Total Petroleum Hydrocarbons (“TPH”) were detected in all soil samples up to 479,000 ppm. The New Jersey Department of Environmental Protection (“NJDEP”) soil cleanup guidance level of 10,000 ppm was exceeded for 60% of the samples.
- Volatile Organic Compounds (“VOCs”) were detected above the impact to groundwater criteria for benzene, chlorobenzene+, and xylenes. At one location, chlorobenzene exceeded the non-residential direct contact soil cleanup criteria.
- Semi-Volatile Organic Compounds (“SVOCs”) were detected in the soil above the criteria for benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, pyrene, N-nitrosodiphenylamine, 1,2-dichlorobenzene+, and 1,4-dichlorobenzene+. The greatest number of exceedances were observed for benzo(a)pyrene.
- One surface soil sample from the Site exhibited an exceedance for pesticides; and Dieldrin, 4,4'-DDD and 4,4'-DDT, were observed above the non-residential direct-contact soil cleanup criteria.
- Sixty four percent of the samples exceeded the non-residential soil criteria for arsenic, beryllium, copper, lead, nickel, thallium, and zinc.
- Hydrocarbons were observed in five of seven soil borings in July of 1995.

Groundwater samples collected on Site detected the following hazardous substances, all exceeding the groundwater criteria [those with a (+) are identified by USEPA as being associated with the formation of dioxin]:

- Xylene
- 1,2-Dichloroethylene
- Vinyl Chloride
- 2-Butanone
- Tetrachloroethene
- Trichloroethene
- Chloroform
- Acetone
- 1,4-Dichlorobenzene+
- Naphthalene
- 2,4-Dimethylphenol
- 2-Methylnaphthalene
- Pentachlorophenol+
- 4,4'-DDT up to 0.12 ppb
- Alpha-BHC up to 5.0 ppb
- Lead

- Arsenic
- Chromium
- Antimony
- Beryllium
- Cadmium
- Cobalt
- Nickel

In 1990, groundwater was analyzed by Exxon Mobil's consultant, Dan Raviv Associates, Inc., which reported: "The VOC analysis revealed elevated levels of methylene chloride, benzene, toluene and chlorobenzene+...The B/N analytical results revealed elevated levels of 1,2-dichlorobenzene+, 1,3-dichlorobenzene, naphthalene, bis(2-ethylhexyl)phthalate and several non-targeted compounds."

Exxon Mobil and Bayonne Industries, Inc. ("BII") were notified by NJDEP that they were jointly responsible for the contamination of the Platty Kill Creek, which lies between both company properties and flows southward to the Kill Van Kull. In 2000, Exxon Mobil and BII agreed jointly to conduct the remediation of the Platty Kill Creek. Sediment samples collected and analyzed from the Platty Kill Creek identified the following hazardous substances at the concentrations indicated [those with a (+) identified by USEPA as being associated with the formation of dioxin]:

- Total Petroleum Hydrocarbons up to 170,000 ppm
- Chlorobenzene+ up to 65,000 ppb
- Ethylbenzene up to 71,000 ppb
- Total Xylenes up to 500,000 ppb
- Toluene up to 54,000 ppb
- Diethylphthalate up to 790,000 ppb
- Naphthalene up to 260,000 ppb
- Bis(2-ethylhexyl)phthalate up to 93,000 ppb
- Fluorene up to 130,000 ppb
- Fluoranthene up to 95,000 ppb
- Phenanthrene up to 250,000 ppb
- Anthracene up to 53,000 ppb
- Pyrene up to 78,000 ppb
- Alpha BHC up to 220 ppb
- Delta BHC up to 870 ppb
- Heptachlor up to 650 ppb
- Dieldrin up to 860 ppb
- 4,4'-DDE up to 2,100 ppb
- 4,4'-DDD up to 3,400 ppb
- 4,4'-DDT up to 150 ppb
- Alpha chlordane up to 400 ppb
- Gamma chlordane up to 520 ppb
- Aluminum up to 28,600 ppm
- Arsenic up to 629 ppm
- Barium up to 1,330 ppm
- Cadmium up to 14.6 ppm

- Chromium up to 534 ppm
- Cobalt up to 86.4 ppm
- Copper up to 1,560 ppm
- Lead up to 11,600 ppm
- Magnesium up to 11,700 ppm
- Manganese up to 2,090 ppm
- Mercury up to 13.2 ppm
- Nickel up to 273 ppm
- Vanadium up to 259 ppm
- Zinc up to 1,530 ppm

It was estimated by BII that 7,488 cubic yards of sediment from the Platty Kill Creek was contaminated, predominately with arsenic and lead.

In July 1987, an embankment from a sea wall collapsed and allowed slack wax to spill into the Platty Kill Creek.

In 1999, NJDEP informed Exxon Mobil that, based upon reports documenting historical spills and the migration of subsurface free oil into the Platty Kill Creek:

“[I]t is clearly evident from visual observation that the Platty Kill Canal has already been impacted by contaminant discharges that include free and dissolved phased petroleum hydrocarbons.”

Exxon Mobil's consultant, Gerraghty & Miller, have advised that spills in the vicinity of Exxon Mobil's piers have entered into the waters of the Kill Van Kull. At least 88 spills have occurred to surface grounds and adjacent waterways of the Site. During the 1970 – 1992, the following substances, at volumes ranging from 100 gallons to 92,400 gallons each, have discharged from the Site:

- Waste Oil
- Emulsion Flux
- Fuel Oil
- Wax (MEK Feed)
- Diesel Fuel
- Asphalt
- Bunker Fuel Oil
- Solvents

Exxon Mobil informed regulatory authorities that copper, zinc, phenols, toluene and naphthalene are components of lubricating oils and products stored at the Site.

In June of 1984 an Exxon Mobil barge spilled oil into the Upper New York Bay near Bayonne, New Jersey. A few years later in January of 1987, an Exxon barge spilled oil into the Kill Van Kull. Eleven months later in December of 1987 an oil tank overflowed, spilling oil into the Kill Van Kull as well.

Phase II NBSA sediment sampling and analysis conducted in October to December 2007 identified the following hazardous substances associated with this Site in sediments at the confluence of the Platty Kill Creek/Canal with the Kill Van Kull [with an (*) representing the maximum value detected in the study]:

• 2,3,7,-8 TCDD	956 ppt
• Total TCDD	1,200 ppt
• Dioxin TEQ	1,090 ppt
• TPH	479,000 ppb
• Dieldrin*	120 ppb (Top 3 data points in study)
• Chlorobenzene	65 ppb
• 1,2-Dichlorobenzene	32 ppb
• 1,4,-Dichlorobenzene	710 ppb
• Bis(2-ethylhexyl)phthalate	21,000 ppb
• Fluoranthene	18,000 ppb
• Pyrene	20,000 ppb
• Phenanthrene	45,000 ppb
• Fluorene	15,000 ppb
• Naphthalene	9,900 ppb
• N-Nitrosodiphenylamine	12,000 ppb
• Alpha Chlordane	35 ppb
• 4,4'-DDD	130 ppb
• 4,4'-DDE	170 ppb
• 4,4'-DDT	150 ppb
• Total DDT (2,4' and 4,4')	407 ppb
• PCB-126	1,330 ppb
• Total Congener PCBs	8,630,000 ppb
• 2,4,5-TP	300 ppb
• 2,4-D	340 ppb
• 2,4,5-T	46 ppb
• Arsenic	70 ppm
• Beryllium	1.1 ppm
• Barium	506 ppm
• Cadmium	17 ppm
• Chromium	507 ppm
• Copper	522 ppm
• Lead	455 ppm
• Mercury	14 ppm
• Nickel	81 ppm
• Thallium	0.3 ppm
• Vanadium	91 ppm
• Zinc	712 ppm

The information presented in the attached chart identifies analytical data from NBSA Phase I & II sediment sampling in the vicinity of the Site in comparison to detected concentrations of those same hazardous substances identified to date on Site.

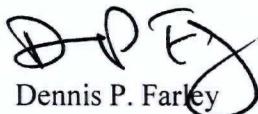
NBSA sediment sampling for Phase I & II was carried out at depths ranging from 0 to 29.5 feet. Detected analytes highlighted in yellow on the attached chart represent values detected in the highest 20% range for all samples analyzed in the Phase I & II Study, while orange highlighting depicts values among the top 5% of samples analyzed. Red highlighting denotes the highest value found within the NBSA Phase I & II data.

It is noteworthy that the Site has had significant historical releases of non-petroleum wastes and petroleum wastes which were substantially intermingled and mixed in the way they were discharged from the Site, including through Plattykill Pond/Creek to the Kill Van Kull. As such, these co-mingled wastes that have been released from the Site do not fall within the 'Petroleum Exclusion' of CERCLA.

In light of the previous evidence, supplemented by the most recent data identified in Remedial Investigation sampling, it is clear that hazardous substances from the Exxon Mobil Bayonne Site have been discharged to the Newark Bay Study Area. At our March 27, 2008 meeting with USEPA, we were advised that USEPA had concerns, at that time, regarding the proximity of the Site to the actual Newark Bay Study Area. However, in light of the Phase I and II sediment sampling results as reflected in the attached chart, it is clear that not only have significant contaminants of concern in the NBSA been detected on the Exxon Mobil Bayonne Site and in the Platty Kill Creek, but now also have been detected in Kill Van Kull sediments. The Kill Van Kull is a significant tidal tributary to Newark Bay and certainly contributes Kill Van Kull sediments and contaminants of concern into Newark Bay a short distance west of this Site. In light of these conditions, the Exxon Mobil Bayonne Site should be viewed as eligible to receive a General Notice Letter with respect to contaminants of concern in the NBSA.

Should you have any questions on the information presented in this letter or the enclosed chart, please do not hesitate to contact us.

Sincerely,
The Intelligence Group



Dennis P. Farley

Enclosures

cc: Elizabeth Butler – EPA (w/o enclosures)
Sara Galley, Esq. – Maxus
Paul Bluestein – Tierra Solutions, Inc.
Paul W. Herring, Esq. – Andrews Kurth

EXXON MOBIL CORPORATION
BAYONNE SITE
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	2,3,7,8-TCDD	Units	Result Qualifiers	Total TCDD	Units	Result Qualifiers	Dioxin TEQ	Units	Result Qualifiers	TPH	Units	Result Qualifiers
Phase II - Sample Location 096															
KK02SED096D-01	0	0.5	ft	19.1	pg/g	-	89	pg/g	-	37.3	pg/g	-	11,000	mg/kg	B, D, M
KK02SED096D-02	0.5	1.5	ft	18	pg/g	-	98	pg/g	-	36.5	pg/g	-	1,400	mg/kg	B, D, M
KK02SED096D-03	1.5	2.5	ft	19.1	pg/g	-	88	pg/g	-	42.8	pg/g	-	1,200	mg/kg	B, D, M
KK02SED096D-04	2.5	3.5	ft	25.1	pg/g	-	96	pg/g	-	51.8	pg/g	-	1,900	mg/kg	B, D, M
KK02SED096D-05	3.5	5.5	ft	24.5	pg/g	-	97	pg/g	-	56.6	pg/g	-	2,000	mg/kg	B, D, M
KK02SED096D-06	5.5	7.5	ft	50.2	pg/g	-	124	pg/g	-	81.1	pg/g	-	3,400	mg/kg	B, D, M
KK02SED096D-07	7.5	9.5	ft	82.5	pg/g	-	199	pg/g	-	131	pg/g	-	5,600	mg/kg	B, D, M
KK02SED096D-08	9.5	11.5	ft	174	pg/g	-	174	pg/g	-	257	pg/g	-	11,000	mg/kg	B, D, M
KK02SED096D-09	11.5	13.5	ft	502	pg/g	-	680	pg/g	-	607	pg/g	-	16,000	mg/kg	B, D, M
KK02SED096D-10	13.5	15.5	ft	956	pg/g	-	1,200	pg/g	-	1,090	pg/g	-	28,000	mg/kg	B, D, M
KK02SED096D-11	15.5	17.5	ft	874	pg/g	-	1,090	pg/g	-	998	pg/g	-	31,000	mg/kg	B, D, M
KK02SED096D-12	17.5	19.5	ft	194	pg/g	-	389	pg/g	-	282	pg/g	-	19,000	mg/kg	B, D, M

LEGEND	
Sediment Samples - Platty Kill Creek/Canal	
Site Groundwater	
X = Found in Site Soil	
NA = Not Analyzed	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

EXXON MOBIL CORPORATION
BAYONNE SITE
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Dieldrin	Units	Result Qualifiers	Chlorobenzene	Units	Result Qualifiers	1,2-Dichlorobenzene	Units	Result Qualifiers
Phase II - Sample Location 096				860	ug/kg		65	ug/kg		X		
KK02SED096D-01	0	0.5	ft	3	ug/kg	G,P,J	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-02	0.5	1.5	ft	3.2	ug/kg	G,M	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-03	1.5	2.5	ft	-	ug/kg	U	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-04	2.5	3.5	ft	-	ug/kg	U	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-05	3.5	5.5	ft	4.4	ug/kg	G,P,J	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-06	5.5	7.5	ft	5.3	ug/kg	G,P,J	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-07	7.5	9.5	ft	11	ug/kg	P,J	-	ug/kg	U,M	-	ug/kg	UJ
KK02SED096D-08	9.5	11.5	ft	22	ug/kg	M	-	ug/kg	U,J	-	ug/kg	U,M
KK02SED096D-09	11.5	13.5	ft	91	ug/kg	M	380	ug/kg	J	-	ug/kg	U,M
KK02SED096D-10	13.5	15.5	ft	79	ug/kg	M	11,000	ug/kg	M	-	ug/kg	U,M
KK02SED096D-11	15.5	17.5	ft	120	ug/kg	DM	570	ug/kg	M	32	ug/kg	J
KK02SED096D-12	17.5	19.5	ft	85	ug/kg	M	15	ug/kg	M	-	ug/kg	U,M
				Top 3 data points in study								

LEGEND	
Sediment Samples - Platty Kill Creek/Canal	
Site Groundwater	
X = Found in Site Soil	
NA = Not Analyzed	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

EXXON MOBIL CORPORATION
BAYONNE SITE
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	1,4-Dichlorobenzene	Units	Result Qualifiers	Toluene	Units	Result Qualifiers	Total Xylenes	Units	Result Qualifiers
Phase II - Sample Location 096				X			54,000	ug/kg		500,000	ug/kg	
KK02SED096D-01	0	0.5	ft	-	ug/kg	U,M	NA	ug/kg	-	NA	ug/kg	-
KK02SED096D-02	0.5	1.5	ft	-	ug/kg	U,M	NA	ug/kg	-	NA	ug/kg	-
KK02SED096D-03	1.5	2.5	ft	-	ug/kg	U,M	NA	ug/kg	-	NA	ug/kg	-
KK02SED096D-04	2.5	3.5	ft	-	ug/kg	U,M	NA	ug/kg	-	NA	ug/kg	-
KK02SED096D-05	3.5	5.5	ft	-	ug/kg	U,M	NA	ug/kg	-	NA	ug/kg	-
KK02SED096D-06	5.5	7.5	ft	-	ug/kg	U,M	NA	ug/kg	-	NA	ug/kg	-
KK02SED096D-07	7.5	9.5	ft	37	ug/kg	J	NA	ug/kg	-	NA	ug/kg	-
KK02SED096D-08	9.5	11.5	ft	280	ug/kg	G,J	NA	ug/kg	-	NA	ug/kg	-
KK02SED096D-09	11.5	13.5	ft	560	ug/kg	G,JH	NA	ug/kg	-	NA	ug/kg	-
KK02SED096D-10	13.5	15.5	ft	710	ug/kg	G,M	NA	ug/kg	-	NA	ug/kg	-
KK02SED096D-11	15.5	17.5	ft	39	ug/kg	J	NA	ug/kg	-	NA	ug/kg	-
KK02SED096D-12	17.5	19.5	ft	-	ug/kg	U,M	NA	ug/kg	-	NA	ug/kg	-

LEGEND	
Sediment Samples - Platty Kill Creek/Canal	
Site Groundwater	
X = Found in Site Soil	
NA = Not Analyzed	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

EXXON MOBIL CORPORATION
BAYONNE SITE
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Bis(2-ethylhexyl)phthalate	Units	Result Qualifiers	Fluoranthene	Units	Result Qualifiers	Pyrene	Units	Result Qualifiers	Phenanthrene	Units	Result Qualifiers
Phase II - Sample Location 096				93,000	ug/kg		95,000	ug/kg		78,000	ug/kg		250,000	ug/kg	
KK02SED096D-01	0	0.5	ft	1,800	ug/kg	M	1,600	ug/kg	M	1,000	ug/kg	M	950	ug/kg	M
KK02SED096D-02	0.5	1.5	ft	1,600	ug/kg	M	1,300	ug/kg	M	1,200	ug/kg	M	380	ug/kg	G,M
KK02SED096D-03	1.5	2.5	ft	1,700	ug/kg	M	930	ug/kg	M	800	ug/kg	M	220	ug/kg	G,M
KK02SED096D-04	2.5	3.5	ft	3,200	ug/kg	M	1,400	ug/kg	M	1,100	ug/kg	M	280	ug/kg	G,M
KK02SED096D-05	3.5	5.5	ft	3,700	ug/kg	M	1,600	ug/kg	M	1,100	ug/kg	M	340	ug/kg	G,M
KK02SED096D-06	5.5	7.5	ft	8,300	ug/kg	D,M	1,800	ug/kg	D,M	1,100	ug/kg	D,M	500	ug/kg	D,M
KK02SED096D-07	7.5	9.5	ft	18,000	ug/kg	D,M	3,400	ug/kg	D,M	2,100	ug/kg	D,M	2,200	ug/kg	D,M
KK02SED096D-08	9.5	11.5	ft	21,000	ug/kg	D,M	5,400	ug/kg	D,M	3,200	ug/kg	D,M	6,700	ug/kg	D,M
KK02SED096D-09	11.5	13.5	ft	15,000	ug/kg	D,M	9,300	ug/kg	D,M	6,100	ug/kg	D,M	14,000	ug/kg	D,M
KK02SED096D-10	13.5	15.5	ft	14,000	ug/kg	D,M	18,000	ug/kg	D,M	14,000	ug/kg	D,M	32,000	ug/kg	D,M
KK02SED096D-11	15.5	17.5	ft	11,000	ug/kg	D,M	18,000	ug/kg	D,M	20,000	ug/kg	D,M	45,000	ug/kg	D,M
KK02SED096D-12	17.5	19.5	ft	4,300	ug/kg	D,M	3,800	ug/kg	D,M	5,100	ug/kg	D,M	7,700	ug/kg	D,M

LEGEND	
Sediment Samples - Platty Kill Creek/Canal	
Site Groundwater	
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Top 20% of Values Detected in Phase I and II	

EXXON MOBIL CORPORATION
BAYONNE SITE
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Fluorene	Units	Result Qualifiers	Naphthalene	Units	Result Qualifiers	N-Nitrosodiphenylamine	Units	Result Qualifiers
Phase II - Sample Location 096				130,000	ug/kg		260,000	ug/kg		X		
KK02SED096D-01	0	0.5	ft	220	ug/kg	M	160	ug/kg	G,M	-	ug/kg	U,M
KK02SED096D-02	0.5	1.5	ft	54	ug/kg	M	110	ug/kg	G,M	-	ug/kg	U,M
KK02SED096D-03	1.5	2.5	ft	38	ug/kg	M	72	ug/kg	B,M	-	ug/kg	U,M
KK02SED096D-04	2.5	3.5	ft	53	ug/kg	M	82	ug/kg	G,M	-	ug/kg	U,M
KK02SED096D-05	3.5	5.5	ft	826	ug/kg	G,M	93	ug/kg	G,M	53	ug/kg	G,M
KK02SED096D-06	5.5	7.5	ft	120	ug/kg	G,D,M	97	ug/kg	B,D,M	-	ug/kg	U,D,M
KK02SED096D-07	7.5	9.5	ft	710	ug/kg	G,D,M	290	ug/kg	G,D,M	590	ug/kg	G,D,M
KK02SED096D-08	9.5	11.5	ft	2,100	ug/kg	D,M	790	ug/kg	G,D,M	2,100	ug/kg	D,M
KK02SED096D-09	11.5	13.5	ft	4,300	ug/kg	D,M	2,300	ug/kg	D,M	3,900	ug/kg	D,M
KK02SED096D-10	13.5	15.5	ft	10,000	ug/kg	D,M	5,300	ug/kg	D,M	6,900	ug/kg	D,M
KK02SED096D-11	15.5	17.5	ft	15,000	ug/kg	D,M	9,900	ug/kg	D,M	12,000	ug/kg	D,M
KK02SED096D-12	17.5	19.5	ft	2,500	ug/kg	D,M	2,800	ug/kg	D,M	-	ug/kg	U,D,M

LEGEND	
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EXXON MOBIL CORPORATION
BAYONNE SITE
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Alpha Chlordane	Units	Result Qualifiers	4,4-DDD	Units	Result Qualifiers	4,4-DDE	Units	Result Qualifiers	4,4-DDT	Units	Result Qualifiers
Phase II - Sample Location 096				400	ug/kg		83,000	ug/kg		2,100	ug/kg		150	ug/kg	
KK02SED096D-01	0	0.5	ft	1.4	ug/kg	M	6.2	ug/kg	G, M	9.4	ug/kg	M	-	ug/kg	U
KK02SED096D-02	0.5	1.5	ft	-	ug/kg	U	6.2	ug/kg	G, M	-	ug/kg	U	-	ug/kg	U
KK02SED096D-03	1.5	2.5	ft	0.96	ug/kg	G,M	5.4	ug/kg	G, M	12	ug/kg	M	-	ug/kg	U
KK02SED096D-04	2.5	3.5	ft	-	ug/kg	U	7.4	ug/kg	G, M	16	ug/kg	M	11	ug/kg	P,J
KK02SED096D-05	3.5	5.5	ft	0.97	ug/kg	G,M	7.3	ug/kg	G, M	19	ug/kg	M	-	ug/kg	U
KK02SED096D-06	5.5	7.5	ft	1.2	ug/kg	G,P,J	5.8	ug/kg	G, M	20	ug/kg	M	-	ug/kg	U
KK02SED096D-07	7.5	9.5	ft	-	ug/kg	U	11	ug/kg	M	31	ug/kg	P,J	21	ug/kg	P,J
KK02SED096D-08	9.5	11.5	ft	7	ug/kg	P, NJ	22	ug/kg	M	39	ug/kg	P,J	9.2	ug/kg	P,NJ
KK02SED096D-09	11.5	13.5	ft	9	ug/kg	P,J	64	ug/kg	M	110	ug/kg	M	31	ug/kg	P,NJ
KK02SED096D-10	13.5	15.5	ft	18	ug/kg	P,J	75	ug/kg	M	110	ug/kg	M	37	ug/kg	P,NJ
KK02SED096D-11	15.5	17.5	ft	35	ug/kg	P,J	130	ug/kg	DM	170	ug/kg	DM	73	ug/kg	M
KK02SED096D-12	17.5	19.5	ft	13	ug/kg	M	41	ug/kg	M	140	ug/kg	DM	19	ug/kg	P,NJ

LEGEND	
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EXXON MOBIL CORPORATION
BAYONNE SITE
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Total DDT 2,4 and 4-4	Units	Result Qualifiers	PCB - 126	Units	Result Qualifiers	Total PCB Congeners	Units	Result Qualifiers	Alpha BHC	Units	Result Qualifiers
Phase II - Sample Location 096				NA			NA			NA			220	ug/kg	
KK02SED096D-01	0	0.5	ft	15.6	ug/kg	-	87	pg/g		515,000	pg/g	-	-	ug/kg	U,M
KK02SED096D-02	0.5	1.5	ft	3.2	ug/kg	-	97	pg/g		520,000	pg/g	-	-	ug/kg	U,M
KK02SED096D-03	1.5	2.5	ft	17.4	ug/kg	-	108	pg/g	D	671,000	pg/g	-	-	ug/kg	U,M
KK02SED096D-04	2.5	3.5	ft	34.4	ug/kg	J	122	pg/g	D	804,000	pg/g	-	-	ug/kg	U,M
KK02SED096D-05	3.5	5.5	ft	32.5	ug/kg	J	125	pg/g	D	891,000	pg/g	-	-	ug/kg	U,M
KK02SED096D-06	5.5	7.5	ft	32	ug/kg	J	136	pg/g	D	930,000	pg/g	-	-	ug/kg	U,M
KK02SED096D-07	7.5	9.5	ft	73	ug/kg	J	255	pg/g	D	2,130,000	pg/g	-	-	ug/kg	U,M
KK02SED096D-08	9.5	11.5	ft	94.5	ug/kg	J	633	pg/g	DJ	5,240,000	pg/g	B	-	ug/kg	U
KK02SED096D-09	11.5	13.5	ft	263	ug/kg	J	1,120	pg/g	D	8,630,000	pg/g	-	-	ug/kg	U
KK02SED096D-10	13.5	15.5	ft	275	ug/kg	J	1,330	pg/g	D	7,780,000	pg/g	-	-	ug/kg	U
KK02SED096D-11	15.5	17.5	ft	407	ug/kg	J	1,180	pg/g	D	6,340,000	pg/g	-	-	ug/kg	U
KK02SED096D-12	17.5	19.5	ft	247	ug/kg	J	781	pg/g	D	4,260,000	pg/g	-	-	ug/kg	U,M

LEGEND	
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EXXON MOBIL CORPORATION
BAYONNE SITE
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Delta BHC	Units	Result Qualifiers	2,4,5-TP	Units	Result Qualifiers	2,4-D	Units	Result Qualifiers	2,4,5-T	Units	Result Qualifiers	Arsenic	Units	Result Qualifiers
Phase II - Sample Location 096				870	ug/kg		NA			NA			NA			629	mg/kg	
KK02SED096D-01	0	0.5	ft	-	ug/kg	U,M	-	ug/kg	R	37	ug/kg	G,M	-	ug/kg	U	12.6	mg/kg	M
KK02SED096D-02	0.5	1.5	ft	-	ug/kg	U,M	17	ug/kg	P,J	100	ug/kg	M	-	ug/kg	P,J	13.6	mg/kg	M
KK02SED096D-03	1.5	2.5	ft	-	ug/kg	U,M	26	ug/kg	P,NJ	160	ug/kg	P,NJ	-	ug/kg	U	13.9	mg/kg	M
KK02SED096D-04	2.5	3.5	ft	-	ug/kg	U,M	35	ug/kg	M	82	ug/kg	G,M	-	ug/kg	U	16	mg/kg	M
KK02SED096D-05	3.5	5.5	ft	-	ug/kg	U,M	14	ug/kg	P,NJ	57	ug/kg	G,M	-	ug/kg	U	15.3	mg/kg	M
KK02SED096D-06	5.5	7.5	ft	-	ug/kg	U,M	-	ug/kg	R	94	ug/kg	P,J	-	ug/kg	U	16.2	mg/kg	M
KK02SED096D-07	7.5	9.5	ft	-	ug/kg	U,M	35	ug/kg	P,NJ	120	ug/kg	JH	-	ug/kg	U	20.1	mg/kg	M
KK02SED096D-08	9.5	11.5	ft	-	ug/kg	U	25	ug/kg	PNJ	150	ug/kg	P,J	-	ug/kg	U	30.2	mg/kg	M
KK02SED096D-09	11.5	13.5	ft	-	ug/kg	U	34	ug/kg	D,G,JH	280	ug/kg	JH	26	ug/kg	B,P,JH	48.5	mg/kg	M
KK02SED096D-10	13.5	15.5	ft	-	ug/kg	U	45	ug/kg	P,NJ	290	ug/kg	P,JH	21	ug/kg	G,P,JH	62.5	mg/kg	M
KK02SED096D-11	15.5	17.5	ft	-	ug/kg	U	300	ug/kg	D,E,P,JH	-	ug/kg	U	46	ug/kg	B,P,JH	89.6	mg/kg	M
KK02SED096D-12	17.5	19.5	ft	-	ug/kg	U,M	41	ug/kg	P,NJ	340	ug/kg	P,NJ	21	ug/kg	B,P,JH	41.6	mg/kg	M

LEGEND	
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EXXON MOBIL CORPORATION
BAYONNE SITE
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Barium	Units	Result Qualifiers	Beryllium	Units	Result Qualifiers	Cadmium	Units	Result Qualifiers
Phase II - Sample Location 096				1,330	mg/kg		X	mg/kg		14.6	mg/kg	
KK02SED096D-01	0	0.5	ft	82.1	mg/kg	E, * J	0.9	mg/kg	E,J	1.1	mg/kg	M
KK02SED096D-02	0.5	1.5	ft	98.1	mg/kg	E, * J	1	mg/kg	E,J	1.3	mg/kg	M
KK02SED096D-03	1.5	2.5	ft	86.4	mg/kg	E, * J	0.9	mg/kg	B,E,J	1.3	mg/kg	M
KK02SED096D-04	2.5	3.5	ft	109	mg/kg	E, * J	0.98	mg/kg	E,J	2	mg/kg	M
KK02SED096D-05	3.5	5.5	ft	116	mg/kg	E, * J	0.96	mg/kg	E,J	2.5	mg/kg	M
KK02SED096D-06	5.5	7.5	ft	136	mg/kg	E, * J	0.89	mg/kg	E,J	2.5	mg/kg	M
KK02SED096D-07	7.5	9.5	ft	112	mg/kg	E, * J	0.87	mg/kg	E,J	5.8	mg/kg	M
KK02SED096D-08	9.5	11.5	ft	170	mg/kg	E, * J	0.94	mg/kg	E,J	9.2	mg/kg	M
KK02SED096D-09	11.5	13.5	ft	389	mg/kg	E, * J	1.1	mg/kg	E,J	1.64	mg/kg	M
KK02SED096D-10	13.5	15.5	ft	506	mg/kg	E, * J	1.1	mg/kg	E,J	17.1	mg/kg	M
KK02SED096D-11	15.5	17.5	ft	233	mg/kg	E, * J	0.9	mg/kg	E,J	15.4	mg/kg	M
KK02SED096D-12	17.5	19.5	ft	187	mg/kg	E, * J	0.96	mg/kg	E,J	8.8	mg/kg	M

LEGEND	
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EXXON MOBIL CORPORATION
BAYONNE SITE
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Chromium	Units	Result Qualifiers	Copper	Units	Result Qualifiers	Lead	Units	Result Qualifiers	Mercury	Units	Result Qualifiers
Phase II - Sample Location 096				534	mg/kg		1,560	mg/kg		11,600	mg/kg		13.2	mg/kg	
KK02SED096D-01	0	0.5	ft	81.2	mg/kg	M	96.2	mg/kg	M	104	mg/kg	E, *, J	0.77	mg/kg	D, B, M
KK02SED096D-02	0.5	1.5	ft	87.2	mg/kg	M	110	mg/kg	M	120	mg/kg	E, *, J	1.5	mg/kg	D, B, M
KK02SED096D-03	1.5	2.5	ft	92.2	mg/kg	M	115	mg/kg	M	122	mg/kg	E, *, J	1.6	mg/kg	D, B, M
KK02SED096D-04	2.5	3.5	ft	125	mg/kg	M	165	mg/kg	M	159	mg/kg	E, *, J	2.5	mg/kg	D, M
KK02SED096D-05	3.5	5.5	ft	135	mg/kg	M	183	mg/kg	M	164	mg/kg	E, *, J	2.3	mg/kg	D, M
KK02SED096D-06	5.5	7.5	ft	135	mg/kg	M	172	mg/kg	M	156	mg/kg	E, *, J	2.7	mg/kg	D, M
KK02SED096D-07	7.5	9.5	ft	190	mg/kg	M	237	mg/kg	M	230	mg/kg	E, *, J	5.2	mg/kg	D, M
KK02SED096D-08	9.5	11.5	ft	301	mg/kg	M	361	mg/kg	M	322	mg/kg	E, *, J	7.4	mg/kg	D, M
KK02SED096D-09	11.5	13.5	ft	488	mg/kg	M	478	mg/kg	M	417	mg/kg	E, *, J	10.8	mg/kg	D, M
KK02SED096D-10	13.5	15.5	ft	493	mg/kg	M	522	mg/kg	M	464	mg/kg	E, *, J	14.1	mg/kg	D, M
KK02SED096D-11	15.5	17.5	ft	507	mg/kg	M	504	mg/kg	M	455	mg/kg	E, *, J	12.7	mg/kg	D, M
KK02SED096D-12	17.5	19.5	ft	391	mg/kg	M	386	mg/kg	M	405	mg/kg	E, *, J	6.9	mg/kg	D, M

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EXXON MOBIL CORPORATION
BAYONNE SITE
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Nickel	Units	Result Qualifiers	Thallium	Units	Result Qualifiers	Vanadium	Units	Result Qualifiers	Zinc	Units	Result Qualifiers
Phase II - Sample Location 096				273	mg/kg		X	mg/kg		259	mg/kg		1,530	mg/kg	
KK02SED096D-01	0	0.5	ft	39.9	mg/kg	N,E,*,JL	0.16	mg/kg	D,B,N,JL	41.6	mg/kg	M	205	mg/kg	E, *, J
KK02SED096D-02	0.5	1.5	ft	72.2	mg/kg	N,E,*,JL	0.14	mg/kg	B,N,JL	42.8	mg/kg	M	241	mg/kg	E, *, J
KK02SED096D-03	1.5	2.5	ft	40.1	mg/kg	N,E,*,JL	0.13	mg/kg	B,N,JL	45.9	mg/kg	M	240	mg/kg	E, *, J
KK02SED096D-04	2.5	3.5	ft	46.8	mg/kg	N,E,*,JL	0.021	mg/kg	B,N,JL	49.6	mg/kg	M	282	mg/kg	E, *, J
KK02SED096D-05	3.5	5.5	ft	80.6	mg/kg	N,E,*,JL	0.11	mg/kg	B,N,JL	46.2	mg/kg	M	292	mg/kg	E, *, J
KK02SED096D-06	5.5	7.5	ft	39.2	mg/kg	N,E,*,JL	0.084	mg/kg	B,N,JL	46.1	mg/kg	M	296	mg/kg	E, *, J
KK02SED096D-07	7.5	9.5	ft	50	mg/kg	N,E,*,JL	0.054	mg/kg	B,N,JL	47.5	mg/kg	M	361	mg/kg	E, *, J
KK02SED096D-08	9.5	11.5	ft	56.4	mg/kg	N,E,*,JL	0.1	mg/kg	B,N,JL	56.6	mg/kg	M	548	mg/kg	E, *, J
KK02SED096D-09	11.5	13.5	ft	77	mg/kg	N,E,*,JL	0.3	mg/kg	B,N,JL	81.1	mg/kg	M	712	mg/kg	E, *, J
KK02SED096D-10	13.5	15.5	ft	74.1	mg/kg	N,E,*,JL	0.29	mg/kg	B,N,JL	90.2	mg/kg	M	655	mg/kg	E, *, J
KK02SED096D-11	15.5	17.5	ft	71.9	mg/kg	N,E,*,JL	0.26	mg/kg	B,N,JL	90.9	mg/kg	M	677	mg/kg	E, *, J
KK02SED096D-12	17.5	19.5	ft	54.9	mg/kg	N,E,*,JL	0.25	mg/kg	B,N,JL	81.9	mg/kg	M	492	mg/kg	E, *, J

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November 17, 2008

VIA OVERNIGHT DELIVERY

Ms. Amelia M. Wagner
United States Environmental Protection Agency
Region II
290 Broadway
17th Floor
New York, NY 10007-1866

Re: Newark Bay Study Area -- Remedial Investigation Work Plan - Sediment Sampling and Source Identification Program Information - Nuodex, Inc., Elizabeth, New Jersey.

Dear Ms. Wagner,

As a follow up to evidence presented by Tierra Solutions Inc. (Tierra) for the Newark Bay Study Area (NBSA) regarding Potentially Responsible Parties (PRPs), we are providing additional information from the Remedial Investigation Work Plan (RIWP) Phase I & II sediment investigation concerning the Nuodex, Inc. Elizabeth, New Jersey Site (the "Nuodex Site" or the "Site").

As you are aware, Tierra presented evidence regarding the Site in our meeting with the United States Environmental Protection Agency ("USEPA") in October 2006, and provided you with a Data Extraction Form and evidentiary exhibits. In addition, by letter dated August 22, 2008, Tierra provided to USEPA supplemental corporate history documentation and current contact information for the appropriate Candidate PRP for the Site. The Nuodex Site is comprised of two tracts: a 20-acre portion of the Site is bordered by industrial properties on the east and west, railroad tracks on the south and Magnolia Avenue on the north at 830 Magnolia Avenue, Elizabeth, Union County, New Jersey 07201; and an approximately 10,000 square foot warehouse located on an approximately 6-acre tract, across Magnolia Avenue to the north at 833 Magnolia Avenue, Elizabeth, Union County, New Jersey 07201.

Nuodex Products Company was established in 1932 and the Elizabeth facility was constructed in 1940 for chemical production. Although ownership of the Site changed hands numerous times over the years, it was always used for chemical manufacturing.

In 1985, Nuodex notified the New Jersey Department of Environmental Protection ("NJDEP") of Nuodex's pending sale to Chemische Werke Huls A.G. ("Huls AG"). As a result, Environmental

Cleanup Responsibility Act (ECRA) requirements – Case No. 85374 – were triggered by the proposed transfer of the Site. Nuodex was purchased by Huls AG. In May 1990, NJDEP issued a Letter of Conditional Cleanup Plan Approval for the soil and groundwater contamination at the Site. All chemical manufacturing operations were discontinued at the Site in June 1993.

Changes in ownership, name changes and mergers continued from 1998 through 2005, when the current owners, LSD Developers, LLC, were prepared to begin re-development of the Site. Degussa Corporation, as successor to Huls AG and holder of the Site permit, remains responsible for ongoing remedial requirements at the Site.

Manufacturing operations took place at the 830 Magnolia Avenue portion of the Site. Metallic naphthenates (for paint and varnish drying), mercury-based fungicides, and other various metal soaps (salt driers, used as driers for paints), catalysts, fuel oil additives, vinyl stabilizers, and fungicides were produced.

The following hazardous substances and materials (without limitation) have been formulated, utilized, handled or disposed of by Nuodex at the Site in its manufacturing operations:

- 2,3,4,6-Tetrachlorophenol (USEPA Class I Pesticide Chemical associated with the formation of dioxin)
- Copper 8-quinolonolate solution
- Di(phenylmercury)dodecenyl succinate
- Dichlorophene
- Folpet [N-(trichloromethylthio)phthalimide]
- Phenyl mercury acetate
- Phenyl mercury oleate
- Quaternary ammonium naphthenates
- Sodium salt of mercaptobenzothiazole
- Zinc naphthenate
- Dichlorobenzene (USEPA Class III Organic Chemical associated with the formation of dioxin)
- Maleic anhydride (USEPA Class III Organic Chemical associated with the formation of dioxin)
- Benzene
- Naphthenic acid
- 2-Ethyl hexoic acid
- Phenyl didecyl phosphite
- Methyl ethyl ketoxime
- Mercury
- Lead, nickel, calcium, manganese, cobalt and zirconium octoate

A variety of hazardous substances were detected in wastewater, effluent, soil and groundwater at the Site. Chlorinated phenols and chlorinated benzenes typically are related to the operations and processes employed at the Site. They also serve as raw materials and/or intermediates for the types of products manufactured at the Site.

In 1981, soil sampling and analysis was conducted for only metals, soil COD, phenyl acetic acid and dodecyl succinic acid. Analysis for chlorinated phenols was not conducted, despite their apparent use at the Site. The following hazardous substances were detected in Site soils at the levels indicated:

• Cadmium	62.7 ppm
• Barium	22.5 ppm
• Zinc	10.7 ppm
• Mercury	144 ppm
• Lead	50.5 ppm
• COD (as percent organic carbon)	37.1%

In its May 27, 1985 ECRA General Information & Site Evaluation Submissions, Nuodex provided the results of Priority Pollutant analysis conducted in May 1980. Samples of the discharge effluent, collected from a catch basin and the laboratory sump, contained the following hazardous substances at the levels indicated:

- 2,4,6-Trichlorophenol up to 3,970 ppb (Polychlorinated phenol associated with the formation of dioxin)
- 2,4-Dichlorophenol up to 3,110 ppb (USEPA Class I Organic Chemical associated with the formation of dioxin)
- Benzene up to 69,700 ppb
- Chlorobenzene up to 2,050 ppb (USEPA Dioxin Precursor Chemical)
- 1,3-Dichlorobenzene up to 2,170 ppb
- 1,2-Dichlorobenzene up to 417 ppb (USEPA Class III Organic Chemical associated with the formation of dioxin)
- 2-Chlorophenol up to 11,100 ppb (USEPA Dioxin Precursor Chemical)
- Phenol up to 939,000 ppb
- 2,4-Dinitrophenol up to 6,000 ppb (USEPA Class III Organic Chemical associated with the formation of dioxin)
- 2-Methyl-4,6-dinitrophenol 268 ppb
- 4-Nitrophenol up to 52,400 ppb
- Mercury up to 2,500 ppb
- Zinc up to 45,500 ppb
- Lead up to 8,920 ppb

Investigations conducted at the Site in 1986 and 1989, consisted of sampling Site soils for metals, petroleum hydrocarbons, and volatile organic compounds. The following hazardous substances were detected in the soil at the levels indicated:

• Benzene	340,000 ppb
• Ethylbenzene	59 ppb
• Tetrachloroethene	180 ppb
• Toluene	570 ppb
• Bis(2-ethylhexyl)phthalate	1,600 ppb

• Petroleum hydrocarbons	33,000,000 ppb
• Aroclor PCB 1248	550,000 ppb
• Mercury	3,000 ppm

Additional delineation sampling conducted in 1999, reported Dieldrin in several soil samples up to 560 ppb.

NBSA Phase I & II sediment sampling and analysis conducted October-December 2005 and October-December 2007 identified the following hazardous substances associated with this Site, adjacent to the Site's CSO outfall to the NBSA [an (*) represents the maximum value detected in the study]:

• 2,3,7,8- TCDD	688 ppt
• Total TCDD	903 ppt
• Dioxin TEQ	781 ppt
• OCDD	16,800 ppt
• 2,4-D	490 ppb
• 2,4,5-T	280 ppb
• Aroclor PCB 1248	10,000 ppb
• Total Aroclor PCBs	17,100 ppb
• Total Congener PCBs*	32,100,000 ppb
• Benzene*	210 ppb
• Ethylbenzene*	720 ppb
• Chlorobenzene	78 ppb
• 1,2-Dichlorobenzene	37 ppb
• 1,3-Dichlorobenzene	400 ppb
• Xylene*	2,200 ppb
• Toluene	44 ppb
• Bis(2-ethylhexyl)phthalate	64,000 ppb
• Phenol	410 ppb
• Total Petroleum Hydrocarbons	16,000 ppb
• Dieldrin	59 ppb
• Arsenic	115 ppm
• Barium	988 ppm
• Cadmium	23.2 ppm
• Chromium	528 ppm
• Copper	853 ppm
• Lead	780 ppm
• Mercury	100 ppm
• Nickel*	159 ppm
• Zinc	1,070 ppm

The information presented in the attached chart identifies analytical data from NBSA Phase I & II sediment sampling in the vicinity of the Site in comparison to detected concentrations of those same hazardous substances identified to date on Site.

Sediment sampling for NBSA Phase I & II was carried out at depths ranging from 0 to 12 feet. Detected analytes highlighted in yellow on the attached chart represent values detected in the highest 20% range for all samples analyzed in the Phase I & II Study, while orange highlighting depicts values among the top 5% of samples analyzed. Red highlighting denotes the highest value found within the NBSA Phase I & II data.

In light of the previous evidence, supplemented by this most recent data developed in Phase I & II, it is clear that the Nuodex Site has contributed hazardous substances to the Newark Bay Study Area.

Should you have any questions on the information presented in this letter or the enclosed chart, please do not hesitate to contact us.

Sincerely,
The Intelligence Group



Dennis P. Farley

Enclosures

cc: Elizabeth Butler – EPA
Sara Galley, Esq. – Maxus
Paul Bluestein – Tierra Solutions, Inc.
Paul W. Herring, Esq. – Andrews Kurth

NUODEX, INC
Elizabeth
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	2,3,7,8-TCDD	Units	Result Qualifiers	Total TCDD	Units	Result Qualifiers	Dioxin TEQ	Units	Result Qualifiers	OCDD	Units	Result Qualifiers
Sample Location 082 - Phase II				NA			NA			NA			NA		
NB02SED082B-01	0	0.5	ft	55.8	pg/g	-	162	pg/g	-	94.1	pg/g	-	4,990	pg/g	M
NB02SED082B-02	0.5	1.5	ft	76.6	pg/g	-	194	pg/g	-	134	pg/g	-	11,300	pg/g	M
NB02SED082B-03	1.5	2.5	ft	134	pg/g	-	134	pg/g	-	218	pg/g	-	10,200	pg/g	M
NB02SED082B-04	2.5	3.5	ft	66.6	pg/g	-	185	pg/g	-	119	pg/g	-	7,450	pg/g	M
NB02SED082B-05	3.5	5.5	ft	149	pg/g	-	400	pg/g	-	272	pg/g	-	16,700	pg/g	M
NB02SED082B-06	5.5	7.5	ft	397	pg/g	-	554	pg/g	-	488	pg/g	-	10,300	pg/g	M
NB02SED082B-07	7.5	9.5	ft	688	pg/g	-	903	pg/g	-	781	pg/g	-	9,210		
NB02SED082B-08	9.5	12	ft	387	pg/g	-	838	pg/g	-	464	pg/g	-	1,200		

Sample Name	Depth Start	Depth End	Depth Units	2,3,7,8-TCDD	Units	Result Qualifiers	Total TCDD	Units	Result Qualifiers	Dioxin TEQ	Units	Result Qualifiers	OCDD	Units	Result Qualifiers
Sample Location 012 - Phase I				NA			NA			NA			NA		
NB01SED012A-01	0	0.5	ft	230	pg/g	-	313	pg/g	-	NA	pg/g	NA	-	pg/g	-
NB01SED012A-02	0.5	1.5	ft	245	pg/g	-	322	pg/g	-	NA	pg/g	NA	6,870	pg/g	M
NB01SED012A-03	1.5	2.5	ft	223	pg/g	-	301	pg/g	-	NA	pg/g	NA	10,400	pg/g	M
NB01SED012A-04	2.5	3.5	ft	555	pg/g	-	695	pg/g	-	NA	pg/g	NA	16,600	pg/g	M
NB01SED012A-05	3.5	5	ft	334	pg/g	-	478	pg/g	-	NA	pg/g	NA	15,200	pg/g	M
NB01SED012A-06	5	6.5	ft	322	pg/g	-	594	pg/g	-	NA	pg/g	NA	14,600	pg/g	M
NB01SED012A-07	6.5	8	ft	26.3	pg/g	-	84.5	pg/g	-	NA	pg/g	NA	4,200	pg/g	M

LEGEND	
NA = Not analyzed	
Soil sample collected on Site	
Catch Basin/lab sump sample collected on Site	
Ground water sample collected on Site	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

NUODEX, INC
Elizabeth
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	2,4-D	Units	Result Qualifiers	2,4,5-TP	Units	Result Qualifiers	2,4,5-T	Units	Result Qualifiers	Aroclor 1248	Units	Result Qualifiers
Sample Location 082 - Phase II				NA			NA			NA			550,000 3,400	ug/kg	
NB02SED082B-01	0	0.5	ft	140	ug/kg	P, J	-	ug/kg	R	-	ug/kg	R	-	ug/kg	UJ
NB02SED082B-02	0.5	1.5	ft	95	ug/kg	U, M	70	ug/kg	P, NJ	-	ug/kg	U	-	ug/kg	UJ
NB02SED082B-03	1.5	2.5	ft	-	ug/kg	R	13	ug/kg	G, P, N	-	ug/kg	R	-	ug/kg	UJ
NB02SED082B-04	2.5	3.5	ft	440	ug/kg	P, NJ	71	ug/kg	P, JH	54	ug/kg	B, P, NJ	-	ug/kg	UJ
NB02SED082B-05	3.5	5.5	ft	490	ug/kg	P, NJ	-	ug/kg	R	-	ug/kg	U, M	-	ug/kg	UJ
NB02SED082B-06	5.5	7.5	ft	130	ug/kg	P, NJ	80	ug/kg	P, NJ	-	ug/kg	R	-	ug/kg	UJ
NB02SED082B-07	7.5	9.5	ft	-	ug/kg	R	31	ug/kg	P, NJ	-	ug/kg	R	-	ug/kg	UJ
NB02SED082B-08	9.5	12	ft	160	ug/kg	J	23	ug/kg	P, J	-	ug/kg	U	-	ug/kg	U, M

Sample Name	Depth Start	Depth End	Depth Units	2,4-D	Units	Result Qualifiers	2,4,5-TP	Units	Result Qualifiers	2,4,5-T	Units	Result Qualifiers	Aroclor 1248	Units	Result Qualifiers
Sample Location 012 - Phase I				NA			NA			NA			550,000 3,400	ug/kg	
NB01SED012A-01	0	0.5	ft	-	ug/kg	U, D, M	-	ug/kg	U, D, M	-	ug/kg	U	8,100	ug/kg	P, D, J
NB01SED012A-02	0.5	1.5	ft	-	ug/kg	U, D, M	-	ug/kg	U	230	ug/kg	G, P, D, N, J	10,000	ug/kg	D, M
NB01SED012A-03	1.5	2.5	ft	-	ug/kg	U, D, M	-	ug/kg	U, D, M	-	ug/kg	U	5,400	ug/kg	P, D, J
NB01SED012A-04	2.5	3.5	ft	-	ug/kg	U, D, M	-	ug/kg	U	-	ug/kg	U	5,200	ug/kg	P, D, J
NB01SED012A-05	3.5	5	ft	-	ug/kg	U, D, M	-	ug/kg	U	-	ug/kg	U, D, M	7,000	ug/kg	D, M
NB01SED012A-06	5	6.5	ft	-	ug/kg	U, D, J	-	ug/kg	U, D, M	250	ug/kg	G, D, J	3,400	ug/kg	P, D, J
NB01SED012A-07	6.5	8	ft	-	ug/kg	U, D, J	-	ug/kg	U, D, M	190	ug/kg	G, P, D, N, J	-	ug/kg	U, D, M
												Top 3 out of 4 data points			

LEGEND	
NA = Not analyzed	
Soil sample collected on Site	
Catch Basin/lab sump sample collected on Site	
Ground water sample collected on Site	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

NUODEX, INC
Elizabeth
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Total Aroclor PCB's	Units	Result Qualifiers	Total PCB Congeners	Units	Result Qualifiers	Benzene	Units	Result Qualifiers
Sample Location 082 - Phase II				NA			NA			340,000 69,700 46,000	ug/kg	
NB02SED082B-01	0	0.5	ft	1,410	ug/kg	J	3,270,000	pg/g	B,D	NA	ug/kg	-
NB02SED082B-02	0.5	1.5	ft	1,900	ug/kg	J	3,110,000	pg/g	B,D	NA	ug/kg	-
NB02SED082B-03	1.5	2.5	ft	3,970	ug/kg	J	8,240,000	pg/g	B,D	NA	ug/kg	-
NB02SED082B-04	2.5	3.5	ft	2,800	ug/kg	J	6,430,000	pg/g	B,D	NA	ug/kg	-
NB02SED082B-05	3.5	5.5	ft	4,490	ug/kg	J	11,400,000	pg/g	B,D	NA	ug/kg	-
NB02SED082B-06	5.5	7.5	ft	9,720	ug/kg	J	15,800,000	pg/g	B,D	NA	ug/kg	-
NB02SED082B-07	7.5	9.5	ft	17,100	ug/kg	J	32,100,000	pg/g	B,D	NA	ug/kg	-
NB02SED082B-08	9.5	12	ft	4,690	ug/kg	J	6,120,000	pg/g	B,D	NA	ug/kg	-
							Top 2 out of 3 data points					

Sample Name	Depth Start	Depth End	Depth Units	Total Aroclor PCB's	Units	Result Qualifiers	Total PCB Congeners	Units	Result Qualifiers	Benzene	Units	Result Qualifiers
Sample Location 012 - Phase I				NA			NA			340,000 69,700 46,000	ug/kg	
NB01SED012A-01	0	0.5	ft	14,000	ug/kg	-	7,680,000	pg/g	D,B	9	ug/kg	M
NB01SED012A-02	0.5	1.5	ft	15,300	ug/kg	J	4,590,000	pg/g	D,B	210	ug/kg	M
NB01SED012A-03	1.5	2.5	ft	8,490	ug/kg	J	5,610,000	pg/g	D,B	200	ug/kg	J,L
NB01SED012A-04	2.5	3.5	ft	8,280	ug/kg	J	6,340,000	pg/g	D,B	110	ug/kg	M
NB01SED012A-05	3.5	5	ft	1,200	ug/kg	J	7,020,000	pg/g	D,B	47	ug/kg	M
NB01SED012A-06	5	6.5	ft	7,190	ug/kg	J	3,220,000	pg/g	-	-	ug/kg	J,L
NB01SED012A-07	6.5	8	ft	4,300	ug/kg	J	1,280,000	pg/g	-	-	ug/kg	J,L
										Top 2 data points		

LEGEND	
NA = Not analyzed	
Soil sample collected on Site	
Catch Basin/lab sump sample collected on Site	
Ground water sample collected on Site	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

NUODEX, INC
Elizabeth
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Ethylbenzene	Units	Result Qualifiers	Chlorobenzene	Units	Result Qualifiers	1,2-Dichlorobenzene	Units	Result Qualifiers
Sample Location 082 - Phase II				59 10	ug/kg		2050 840	ug/kg		417 42	ug/kg	
NB02SED082B-01	0	0.5	ft	NA	ug/kg	-	-	ug/kg	-	-	ug/kg	-
NB02SED082B-02	0.5	1.5	ft	NA	ug/kg	-	-	ug/kg	U, M	-	ug/kg	UJ
NB02SED082B-03	1.5	2.5	ft	NA	ug/kg	-	-	ug/kg	U, M	-	ug/kg	UJ
NB02SED082B-04	2.5	3.5	ft	NA	ug/kg	-	11	ug/kg	G, M	-	ug/kg	UJ
NB02SED082B-05	3.5	5.5	ft	NA	ug/kg	-	8.2	ug/kg	G, M	-	ug/kg	UJ
NB02SED082B-06	5.5	7.5	ft	NA	ug/kg	-	78	ug/kg	J	-	ug/kg	U, M
NB02SED082B-07	7.5	9.5	ft	NA	ug/kg	-	17	ug/kg	G, M	37	ug/kg	J
NB02SED082B-08	9.5	12	ft	NA	ug/kg	-	18	ug/kg	J	-	ug/kg	UM

Sample Name	Depth Start	Depth End	Depth Units	Ethylbenzene	Units	Result Qualifiers	Chlorobenzene	Units	Result Qualifiers	1,2-Dichlorobenzene	Units	Result Qualifiers
Sample Location 012 - Phase I				59 10	ug/kg		2050 840	ug/kg		417 42	ug/kg	
NB01SED012A-01	0	0.5	ft	35	ug/kg	M	32	ug/kg	M	-	ug/kg	U, D, M
NB01SED012A-02	0.5	1.5	ft	13	ug/kg	M	22	ug/kg	G, M	-	ug/kg	U, M
NB01SED012A-03	1.5	2.5	ft	25	ug/kg	JL	33	ug/kg	J, L	-	ug/kg	U, D, M
NB01SED012A-04	2.5	3.5	ft	140	ug/kg	M	17	ug/kg	G, M	-	ug/kg	G, M
NB01SED012A-05	3.5	5	ft	110	ug/kg	M	8	ug/kg	G, M	-	ug/kg	U, D, M
NB01SED012A-06	5	6.5	ft	720	ug/kg	G, JL	-	ug/kg	U	-	ug/kg	U, D, J, L
NB01SED012A-07	6.5	8	ft	-	ug/kg	UJL	-	ug/kg	U	-	ug/kg	U, D, J, L
				Top 5 out of 6 data points								

LEGEND	
NA = Not analyzed	
Soil sample collected on Site	
Catch Basin/lab sump sample collected on Site	
Ground water sample collected on Site	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

NUODEX, INC
Elizabeth
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	1,3-Dichlorobenzene	Units	Result Qualifiers	1,4-Dichlorobenzene	Units	Result Qualifiers	Xylene	Units	Result Qualifiers
Sample Location 082 - Phase II				2,170	ug/kg		5	ug/kg		130	ug/kg	
NB02SED082B-01	0	0.5	ft	-	ug/kg	-	-	ug/kg	-	NA	ug/kg	-
NB02SED082B-02	0.5	1.5	ft	-	ug/kg	-	7.8	ug/kg	G, J	NA	ug/kg	-
NB02SED082B-03	1.5	2.5	ft	-	ug/kg	-	11	ug/kg	G, J	NA	ug/kg	-
NB02SED082B-04	2.5	3.5	ft	10	ug/kg	-	18	ug/kg	J	NA	ug/kg	-
NB02SED082B-05	3.5	5.5	ft	14	ug/kg	-	60	ug/kg	J	NA	ug/kg	-
NB02SED082B-06	5.5	7.5	ft	-	ug/kg	-	360	ug/kg	G, M	NA	ug/kg	-
NB02SED082B-07	7.5	9.5	ft	22	ug/kg	-	91	ug/kg	J	NA	ug/kg	-
NB02SED082B-08	9.5	12	ft	-	ug/kg	-	340	ug/kg	G, J	NA	ug/kg	-

Sample Name	Depth Start	Depth End	Depth Units	1,3-Dichlorobenzene	Units	Result Qualifiers	1,4-Dichlorobenzene	Units	Result Qualifiers	Xylene	Units	Result Qualifiers
Sample Location 012 - Phase I				2,170	ug/kg		5	ug/kg		130	ug/kg	
NB01SED012A-01	0	0.5	ft	NA	ug/kg	-	-	ug/kg	U,D,M	48	ug/kg	M
NB01SED012A-02	0.5	1.5	ft	NA	ug/kg	-	340	ug/kg	G,M	410	ug/kg	M
NB01SED012A-03	1.5	2.5	ft	NA	ug/kg	-	310	ug/kg	G,D,M	1,300	ug/kg	J,L
NB01SED012A-04	2.5	3.5	ft	NA	ug/kg	-	400	ug/kg	G,M	860	ug/kg	M
NB01SED012A-05	3.5	5	ft	NA	ug/kg	-	98	ug/kg	G,J	410	ug/kg	M
NB01SED012A-06	5	6.5	ft	NA	ug/kg	-	-	ug/kg	U,D,J,L	2,200	ug/kg	J,L
NB01SED012A-07	6.5	8	ft	NA	ug/kg	-	-	ug/kg	U,D,J,L	210	ug/kg	J,L
										Top 5 out of 7 data points		

LEGEND	
NA = Not analyzed	
Soil sample collected on Site	
Catch Basin/lab sump sample collected on Site	
Ground water sample collected on Site	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

NUODEX, INC
Elizabeth
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Toluene	Units	Result Qualifiers	Hexachlorobenzene	Units	Result Qualifiers	Bis(2-ethylhexyl)phthalate	Units	Result Qualifiers
Sample Location 082 - Phase II				570 4	ug/kg		NA			1,600	ug/kg	
NB02SED082B-01	0	0.5	ft	NA	ug/kg	-	-	ug/kg	U, D, M	460	ug/kg	M
NB02SED082B-02	0.5	1.5	ft	NA	ug/kg	-	98	ug/kg	D, M	20,000	ug/kg	D, B, M
NB02SED082B-03	1.5	2.5	ft	NA	ug/kg	-	-	ug/kg	U, D, M	50,000	ug/kg	D, B, M
NB02SED082B-04	2.5	3.5	ft	NA	ug/kg	-	-	ug/kg	U, D, M	64,000	ug/kg	D, B, M
NB02SED082B-05	3.5	5.5	ft	NA	ug/kg	-	-	ug/kg	U, M	60,000	ug/kg	D, B, M
NB02SED082B-06	5.5	7.5	ft	NA	ug/kg	-	186	ug/kg	G, D, M	28,000	ug/kg	D, B, M
NB02SED082B-07	7.5	9.5	ft	NA	ug/kg	-	36	ug/kg	G, D, M	12,000	ug/kg	D, B, M
NB02SED082B-08	9.5	12	ft	NA	ug/kg	-	34	ug/kg	G, D, M	6,300	ug/kg	D, M

Sample Name	Depth Start	Depth End	Depth Units	Toluene	Units	Result Qualifiers	Hexachlorobenzene	Units	Result Qualifiers	Bis(2-ethylhexyl)phthalate	Units	Result Qualifiers
Sample Location 012 - Phase I				570 4	ug/kg		NA			1,600	ug/kg	
NB01SED012A-01	0	0.5	ft	-	ug/kg	U, M	-	ug/kg	U, D, M	13,000	ug/kg	D, J
NB01SED012A-02	0.5	1.5	ft	18	ug/kg	G, M	-	ug/kg	U, M	16,000	ug/kg	J
NB01SED012A-03	1.5	2.5	ft	34	ug/kg	J, L	-	ug/kg	U, D, M	12,000	ug/kg	D, J
NB01SED012A-04	2.5	3.5	ft	44	ug/kg	M	-	ug/kg	U, M	13,000	ug/kg	D, J
NB01SED012A-05	3.5	5	ft	-	ug/kg	G, M	-	ug/kg	U, D, M	15,000	ug/kg	D, J
NB01SED012A-06	5	6.5	ft	-	ug/kg	U, J, L	-	ug/kg	U, D, M	15,000	ug/kg	D, M
NB01SED012A-07	6.5	8	ft	-	ug/kg	U, J, L	-	ug/kg	U, D, M	2,700	ug/kg	G, D, M

LEGEND	
NA = Not analyzed	
Soil sample collected on Site	
Catch Basin/lab sump sample collected on Site	
Ground water sample collected on Site	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

NUODEX, INC
Elizabeth
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Phenol	Units	Result Qualifiers	4-Nitrophenol	Units	Result Qualifiers	2,4-Dichlorophenol	Units	Result Qualifiers
Sample Location 082 - Phase II				939,000	ug/kg		52,400	ug/kg		31,000	ug/kg	
NB02SED082B-01	0	0.5	ft	410	ug/kg	G, M	-	ug/kg	U, M	-	ug/kg	U, M
NB02SED082B-02	0.5	1.5	ft	130	ug/kg	G, M	-	ug/kg	U, M	-	ug/kg	U, M
NB02SED082B-03	1.5	2.5	ft	-	ug/kg	U, D, M	-	ug/kg	U, D, M	-	ug/kg	U, DM
NB02SED082B-04	2.5	3.5	ft	-	ug/kg	U, D, M	-	ug/kg	U, D, M	-	ug/kg	U, DM
NB02SED082B-05	3.5	5.5	ft	-	ug/kg	U, D, M	-	ug/kg	U, M	-	ug/kg	U, DM
NB02SED082B-06	5.5	7.5	ft	-	ug/kg	U, D, M	-	ug/kg	U, D, M	-	ug/kg	U, DM
NB02SED082B-07	7.5	9.5	ft	-	ug/kg	U, D, M	-	ug/kg	U, D, M	-	ug/kg	U, DM
NB02SED082B-08	9.5	12	ft	-	ug/kg	U, D, M	-	ug/kg	U, M	-	ug/kg	U, DM

Sample Name	Depth Start	Depth End	Depth Units	Phenol	Units	Result Qualifiers	4-Nitrophenol	Units	Result Qualifiers	2,4-Dichlorophenol	Units	Result Qualifiers
Sample Location 012 - Phase I				939,000	ug/kg		52,400	ug/kg		31,000	ug/kg	
NB01SED012A-01	0	0.5	ft	170	ug/kg	G,J	-	ug/kg	U,D,M	-	ug/kg	U,D,M
NB01SED012A-02	0.5	1.5	ft	-	ug/kg	UM	-	ug/kg	UM	-	ug/kg	U,M
NB01SED012A-03	1.5	2.5	ft	-	ug/kg	U,DM	-	ug/kg	U,D,M	-	ug/kg	U,D,M
NB01SED012A-04	2.5	3.5	ft	-	ug/kg	UM	-	ug/kg	UM	-	ug/kg	U,M
NB01SED012A-05	3.5	5	ft	-	ug/kg	U,D,M	-	ug/kg	U,D,M	-	ug/kg	U,D,M
NB01SED012A-06	5	6.5	ft	-	ug/kg	U,D,M	-	ug/kg	UM	-	ug/kg	U,D,M
NB01SED012A-07	6.5	8	ft	-	ug/kg	U,D,M	-	ug/kg	UDJ	-	ug/kg	U,D,M

LEGEND	
NA = Not analyzed	
Soil sample collected on Site	
Catch Basin/lab sump sample collected on Site	
Ground water sample collected on Site	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

NUODEX, INC
Elizabeth
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	2-Chlorophenol	Units	Result Qualifiers	2,4,6-Trichlorophenol	Units	Result Qualifiers	2,4-Dinitrophenol	Units	Result Qualifiers	TPH	Units	Result Qualifiers
Sample Location 082 - Phase II				11,100	ug/kg		3,970	ug/kg		6,000	ug/kg		33,000	mg/kg	
NB02SED082B-01	0	0.5	ft	-	ug/kg	U, M	-	ug/kg	U, M	-	ug/kg	U, M	3,500	mg/kg	B, D, M
NB02SED082B-02	0.5	1.5	ft	-	ug/kg	U, M	-	ug/kg	R	-	ug/kg	U, M	4,100	mg/kg	B, D, M
NB02SED082B-03	1.5	2.5	ft	-	ug/kg	U, DM	-	ug/kg	U, DM	-	ug/kg	U, M	6,100	mg/kg	B, D, M
NB02SED082B-04	2.5	3.5	ft	-	ug/kg	U, DM	-	ug/kg	U, DM	-	ug/kg	U, DM	7,300	mg/kg	B, D, M
NB02SED082B-05	3.5	5.5	ft	-	ug/kg	U, DM	-	ug/kg	U, DM	-	ug/kg	U, DM	8,400	mg/kg	B, D, M
NB02SED082B-06	5.5	7.5	ft	-	ug/kg	U, DM	-	ug/kg	U, DM	-	ug/kg	U, DM	9,700	mg/kg	B, D, M
NB02SED082B-07	7.5	9.5	ft	-	ug/kg	U, DM	-	ug/kg	U, DM	-	ug/kg	U, DM	13,000	mg/kg	B, D, M
NB02SED082B-08	9.5	12	ft	-	ug/kg	U, DM	-	ug/kg	U, DM	-	ug/kg	U, DM	18,000	mg/kg	B, D, M

Sample Name	Depth Start	Depth End	Depth Units	2-Chlorophenol	Units	Result Qualifiers	2,4,6-Trichlorophenol	Units	Result Qualifiers	2,4-Dinitrophenol	Units	Result Qualifiers	TPH	Units	Result Qualifiers
Sample Location 012 - Phase I				11,100	ug/kg		3,970	ug/kg		6,000	ug/kg		33,000	mg/kg	
NB01SED012A-01	0	0.5	ft	-	ug/kg	U,D,M	-	ug/kg	U,D,M	-	ug/kg	U,D,J,L	2,600	mg/kg	D,M
NB01SED012A-02	0.5	1.5	ft	-	ug/kg	U,M	-	ug/kg	U,M	-	ug/kg	U,J,L	3,700	mg/kg	D,M
NB01SED012A-03	1.5	2.5	ft	-	ug/kg	U,D,M	-	ug/kg	U,D,M	-	ug/kg	U,D,J,L	2,500	mg/kg	D,M
NB01SED012A-04	2.5	3.5	ft	-	ug/kg	U,M	-	ug/kg	U,M	-	ug/kg	U,J,L	4,000	mg/kg	D,M
NB01SED012A-05	3.5	5	ft	-	ug/kg	U,D,M	-	ug/kg	U,D,M	-	ug/kg	U,D,J,L	5,300	mg/kg	D,M
NB01SED012A-06	5	6.5	ft	-	ug/kg	U,D,M	-	ug/kg	U,D,M	-	ug/kg	U,D,J,L	15,000	mg/kg	D,M
NB01SED012A-07	6.5	8	ft	-	ug/kg	U,D,M	-	ug/kg	U,D,M	-	ug/kg	U,D,J,L	12,000	mg/kg	D,M

LEGEND	
NA = Not analyzed	
Soil sample collected on Site	
Catch Basin/lab sump sample collected on Site	
Ground water sample collected on Site	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

NUODEX, INC
Elizabeth
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Dieldrin	Units	Result Qualifiers	Arsenic	Units	Result Qualifiers	Barium	Units	Result Qualifiers	Cadmium	Units	Result Qualifiers
Sample Location 082 - Phase II				560	ug/kg		96.1	mg/kg		22.5	mg/kg		63	mg/kg	
NB02SED082B-01	0	0.5	ft	-	ug/kg	R	19.3	mg/kg	M	214	mg/kg	M	3	mg/kg	M
NB02SED082B-02	0.5	1.5	ft	-	ug/kg	R	25.3	mg/kg	M	259	mg/kg	M	6.5	mg/kg	M
NB02SED082B-03	1.5	2.5	ft	14	ug/kg	P, NJ	31.1	mg/kg	M	345	mg/kg	M	11.2	mg/kg	M
NB02SED082B-04	2.5	3.5	ft	13	ug/kg	P, NJ	36.4	mg/kg	M	430	mg/kg	M	14.3	mg/kg	M
NB02SED082B-05	3.5	5.5	ft	-	ug/kg	R	30.1	mg/kg	M	505	mg/kg	M	23.2	mg/kg	M
NB02SED082B-06	5.5	7.5	ft	-	ug/kg	R	52.7	mg/kg	M	988	mg/kg	M	14.8	mg/kg	M
NB02SED082B-07	7.5	9.5	ft	-	ug/kg	R	72	mg/kg	M	425	mg/kg	M	13.5	mg/kg	M
NB02SED082B-08	9.5	12	ft	59	ug/kg	P, NJ	52.6	mg/kg	M	410	mg/kg	E, *, J	14.1	mg/kg	M

Sample Name	Depth Start	Depth End	Depth Units	Dieldrin	Units	Result Qualifiers	Arsenic	Units	Result Qualifiers	Barium	Units	Result Qualifiers	Cadmium	Units	Result Qualifiers
Sample Location 012 - Phase I				560	ug/kg		96.1	mg/kg		22.5	mg/kg		63	mg/kg	
NB01SED012A-01	0	0.5	ft	-	ug/kg	U,D,M	47.1	mg/kg	M	713	mg/kg	M	11	mg/kg	N, J, L
NB01SED012A-02	0.5	1.5	ft	-	ug/kg	U,D,M	73.6	mg/kg	M	978	mg/kg	M	16.6	mg/kg	N, J, L
NB01SED012A-03	1.5	2.5	ft	-	ug/kg	U,D,M	42.7	mg/kg	M	908	mg/kg	M	13	mg/kg	N, J, L
NB01SED012A-04	2.5	3.5	ft	-	ug/kg	U,D,M	63.3	mg/kg	M	733	mg/kg	M	15.2	mg/kg	N, J, L
NB01SED012A-05	3.5	5	ft	-	ug/kg	U,D,M	68.9	mg/kg	*, M	369	mg/kg	M	15.5	mg/kg	N, J, L
NB01SED012A-06	5	6.5	ft	-	ug/kg	U,D,M	60.3	mg/kg	*, M	412	mg/kg	*M	17	mg/kg	*, M
NB01SED012A-07	6.5	8	ft	-	ug/kg	U,D,M	115	mg/kg	*, M	894	mg/kg	*M	13.6	mg/kg	*, M

LEGEND	
NA = Not analyzed	
Soil sample collected on Site	
Catch Basin/lab sump sample collected on Site	
Ground water sample collected on Site	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

NUODEX, INC
Elizabeth
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Chromium	Units	Result Qualifiers	Copper	Units	Result Qualifiers	Lead	Units	Result Qualifiers
Sample Location 082 - Phase II				1	ug/kg		4	ug/kg		9 51 3	mg/kg	
NB02SED082B-01	0	0.5	ft	197	mg/kg	N, JH	309	mg/kg	N,J,H	287	mg/kg	E, J
NB02SED082B-02	0.5	1.5	ft	200	mg/kg	N, JH	417	mg/kg	N,J,H	333	mg/kg	E, J
NB02SED082B-03	1.5	2.5	ft	293	mg/kg	N, JH	585	mg/kg	N,J,H	568	mg/kg	E, J
NB02SED082B-04	2.5	3.5	ft	524	mg/kg	N, JH	769	mg/kg	N,J,H	610	mg/kg	E, J
NB02SED082B-05	3.5	5.5	ft	350	mg/kg	N, JH	769	mg/kg	N,J,H	554	mg/kg	E, J
NB02SED082B-06	5.5	7.5	ft	375	mg/kg	N, JH	544	mg/kg	N,J,H	322	mg/kg	E, J
NB02SED082B-07	7.5	9.5	ft	497	mg/kg	N, JH	673	mg/kg	N,J,H	384	mg/kg	E, J
NB02SED082B-08	9.5	12	ft	433	mg/kg	N, JH	743	mg/kg	M	612	mg/kg	E, *, J

Sample Name	Depth Start	Depth End	Depth Units	Chromium	Units	Result Qualifiers	Copper	Units	Result Qualifiers	Lead	Units	Result Qualifiers
Sample Location 012 - Phase I				1	ug/kg		4	ug/kg		9 51 3	mg/kg	
NB01SED012A-01	0	0.5	ft	329	mg/kg	M	429	mg/kg	M	274	mg/kg	M
NB01SED012A-02	0.5	1.5	ft	491	mg/kg	M	568	mg/kg	M	364	mg/kg	M
NB01SED012A-03	1.5	2.5	ft	269	mg/kg	M	394	mg/kg	M	212	mg/kg	M
NB01SED012A-04	2.5	3.5	ft	423	mg/kg	M	487	mg/kg	M	315	mg/kg	M
NB01SED012A-05	3.5	5	ft	442	mg/kg	M	576	mg/kg	M	362	mg/kg	M
NB01SED012A-06	5	6.5	ft	528	mg/kg	*, M	657	mg/kg	M	581	mg/kg	M
NB01SED012A-07	6.5	8	ft	474	mg/kg	*, M	853	mg/kg	M	780	mg/kg	M

LEGEND	
NA = Not analyzed	
Soil sample collected on Site	
Catch Basin/lab sump sample collected on Site	
Ground water sample collected on Site	
Highest value detected in Phase I and II	
Top 5% of values detected in Phase I and II	
Top 20% of values detected in Phase I and II	

NUODEX, INC
Elizabeth

Sample Name	Depth Start	Depth End	Depth Units	Mercury	Units	Result Qualifiers	Nickel	Units	Result Qualifiers	Thallium	Units	Result Qualifiers	Zinc	Units	Result Qualifiers
Sample Location 082 - Phase II				3000 7	mg/kg		3.2	ug/kg		NA			46 11 6	mg/kg	
NB02SED082B-01	0	0.5	ft	7.7	mg/kg	D, M	46.3	mg/kg	M	0.17	mg/kg	B, J	485	mg/kg	N, JH
NB02SED082B-02	0.5	1.5	ft	7.3	mg/kg	D, M	52.3	mg/kg	M	0.29	mg/kg	B, M	540	mg/kg	N, JH
NB02SED082B-03	1.5	2.5	ft	19.3	mg/kg	D, M	72.6	mg/kg	M	0.72	mg/kg	B, M	729	mg/kg	N, JH
NB02SED082B-04	2.5	3.5	ft	19.4	mg/kg	D, M	78.1	mg/kg	M	0.45	mg/kg	B, M	919	mg/kg	N, JH
NB02SED082B-05	3.5	5.5	ft	78.4	mg/kg	D, M	86	mg/kg	M	0.2	mg/kg	B, M	860	mg/kg	N, JH
NB02SED082B-06	5.5	7.5	ft	100	mg/kg	D, M	65.6	mg/kg	M	0.23	mg/kg	B, M	675	mg/kg	N, JH
NB02SED082B-07	7.5	9.5	ft	40	mg/kg	D, M	158	mg/kg	M	0.26	mg/kg	B, M	842	mg/kg	N, JH
NB02SED082B-08	9.5	12	ft	87.4	mg/kg	D, M	120	mg/kg	E, *, JL	0.31	mg/kg	B, N, JL	1,070	mg/kg	E, * J
							Top 2 out of 4 data points								

Sample Name	Depth Start	Depth End	Depth Units	Mercury	Units	Result Qualifiers	Nickel	Units	Result Qualifiers	Thellium	Units	Result Qualifiers	Zinc	Units	Result Qualifiers
Sample Location 012 - Phase I				3000 7	mg/kg		3.2	ug/kg		NA			46 11 6	mg/kg	
NB01SED012A-01	0	0.5	ft	17.4	mg/kg	M	70	mg/kg	M	2	mg/kg	B,M	603	mg/kg	M
NB01SED012A-02	0.5	1.5	ft	19.3	mg/kg	M	111	mg/kg	M	5.1	mg/kg	M	852	mg/kg	M
NB01SED012A-03	1.5	2.5	ft	13.1	mg/kg	M	66	mg/kg	M	1.5	mg/kg	B,M	519	mg/kg	M
NB01SED012A-04	2.5	3.5	ft	16.1	mg/kg	M	82	mg/kg	M	-	mg/kg	U,M	707	mg/kg	M
NB01SED012A-05	3.5	5	ft	22.8	mg/kg	M	110	mg/kg	M	-	mg/kg	U,M	685	mg/kg	M
NB01SED012A-06	5	6.5	ft	38.7	mg/kg	* , M	70	mg/kg	M	-	mg/kg	U,M	860	mg/kg	M
NB01SED012A-07	6.5	8	ft	17.1	mg/kg	* , M	64	mg/kg	M	-	mg/kg	U,M	860	mg/kg	M

LEGEND

NA = Not analyzed

Soil sample collected on Site

Catch Basin/lab sump sample collected on Site

Ground water sample collected on Site

Highest value detected in Phase I and II

Top 5% of values detected in Rows 1 and 2

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November 11, 2008

VIA OVERNIGHT DELIVERY

Ms. Amelia M. Wagner
United States Environmental Protection Agency
Region II
290 Broadway
17th Floor
New York, NY 10007-1866

Re: Newark Bay Study Area -- Remedial Investigation Work Plan - Sediment Sampling
and Source Identification Program Information – White Chemical Company
Bayonne, New Jersey Site.

Dear Ms. Wagner,

As a follow up to evidence presented by Tierra Solutions Inc. (Tierra) for the Newark Bay Study Area (NBSA) regarding Potentially Responsible Parties (PRPs), we are providing additional information from the Remedial Investigation Work Plan (RIWP) Phase I & II sediment investigation concerning the White Chemical Company (“WCC”) site (the “Site”) in Bayonne, New Jersey.

As you are aware, Tierra presented evidence regarding the Site in our meeting with USEPA in December 2004, and provided you with a Data Extraction Form and evidentiary exhibits. The Site, approximately 3.4 acres in size, is located at the foot of East 22nd Street in Bayonne, Hudson County, New Jersey. The Site is within the industrial complex known as Bayonne Industries (BI), a 225-acre site formerly occupied by the Tidewater Refinery (a/k/a Getty Oil Co.) and the Southern California Chemical Company (incorrectly cited occasionally as “Southern California Oil Co.”). WCC operated a chemical manufacturing facility at the Site as a tenant from 1961 to 1983, when it moved to Newark, New Jersey. The main product lines manufactured at the Site during WCC’s operations were polybrominated biphenyls (PBBs), acid chlorides, alkyl bromides, brominated flame retardants and specialty chemicals. WCC primarily produced chemicals for the pharmaceutical industry.

The following actions are known to have occurred or to be pending: NJDEP notified BI and ExxonMobil that they were jointly and severally responsible for the contamination of the Plattykill Creek/Canal (PKC). This canal lies on the border of both company properties. BI and ExxonMobil have agreed, and have assumed responsibility, jointly to conduct the remediation of the PKC - circa 2000.

WCC declared bankruptcy and filed a case under Chapter 11 (reorganization) of the Federal Bankruptcy Code in 1989. A Final Decree was issued on August 20, 1992, dismissing the bankruptcy petition. Accordingly, WCC's debts and liabilities were not discharged by that bankruptcy filing.

In 1983, WCC was 1 of 10 New Jersey chemical firms named by the USEPA as having manufactured pesticides, herbicides or insecticides in which dioxin compounds can occur. According to WCC's own records, they used or produced several Class I, II, and III chemicals at the Site that are identified by the USEPA as related to "Dioxin formation", as well as other chemicals regulated by the USEPA:

- Tribromophenols (Class I); pentabromophenols (Class I); 2,4-dibromophenol (Class I);
- Tetrabromobisphenol (Class II);
- Maleic anhydride (Class III); diphenyl oxide (Class III); phthalic anhydride (Class III); pentabromotoluene (Class III);
- Chlorobenzene (dioxin precursor chemical regulated by the EPA); and o-dichlorobenzene (dioxin precursor chemical regulated by the EPA).

Organic Chemicals related to Dioxin formation, which were detected in Site soil included:

- 2,4-Dichlorophenol (Class I);
- 2-Chlorophenol (Class II);
- 2,4-Dinitrophenol (Class III); 2-nitrophenol (Class III); phenol (Class III);
- Pentachlorophenol (Class I Pesticide); and
- Chlorobenzene (dioxin precursor chemical regulated by the EPA).

According to a 1983 Administrative Consent Order (ACO) issued to WCC by NJDEP, soil samples were collected and analyzed for the presence of 2,3,7,8-TCDD on June 7, 1983. Analysis of the samples was complicated by high levels of other contaminants in the soil and dioxin identification reportedly was not possible due to the extent of the interference.

The presence of 4,4'-DDD, a congener of DDT, was detected in soils at 83,000 ppb in 1988, as reported by USEPA. The same year, NJDEP recommended that further sampling episodes should include the analysis for Dioxin, as several organic chemicals associated with Dioxin formation were historically used at the facility and have been detected in Site soils and discharge sediments. Compounds related to dioxin formation which were detected in Site soil included: 2,4-Dichlorophenol (Class I); 2-chlorophenol (Class II); 2,4-dinitrophenol (Class III); 2-nitrophenol (Class III); phenol (Class III); pentachlorophenol (Class I Pesticide); and chlorobenzene (dioxin precursor chemical regulated by the EPA). Soil samples in a stained area on Site indicated the "qualitative presence of dibromo-, tribromo-, tetrabromo-, pentabromo-, hexabromo-, heptabromo-, octabromo-, nonabromo-, and decabromo-phenyl compounds" which coincide with compounds utilized-produced by WCC.

Sampling events ordered by NJDEP in 1987 revealed extensive contamination of Site soils with organics, metals, cyanides, phenols, Petroleum Hydrocarbons, and pesticides. PBB isomers levels were indicated as high as 2,800 ppb and Total Isomers up to 750 ppb, in soil. Other contaminants detected in Site soil, from the NJDEP 1987 sampling event, identified the following contaminants at the levels indicated:

• Benzene	22,000 ppb
• Phenols	63,000 ppb
• Toluene	23,000 ppb

Sludge/sediment samples taken by Bayonne Industries in 1996 from the Plattykill Creek/Canal were found to be contaminated with 4,4'-DDT up to 0.15 ppm. Two of its associated congeners were also detected in the canal, 4,4'-DDD up to 3.2 ppm and 4,4'-DDE up to 2.1 ppm.

Sludge samples analyzed detected the following concentrations:

• Total Petroleum Hydrocarbons	230,000 ppm
• Benzene	150,000 ppb
• Chlorobenzene	3,900,000 ppb
• Ethylbenzene	220,000 ppb
• Toluene	980,000 ppb
• Total Xylene	640,000 ppb
• 1,2-Dichlorobenzene	2,839,000 ppb
• 1,3-Dichlorobenzene	443,000 ppb
• 1,4-Dichlorobenzene	801,000 ppb
• 1,2-Dichloroethane	790,000 ppb
• Acenaphthene	170,000 ppb
• Anthracene	53,000 ppb
• Benzo(a)pyrene	46,000 ppb
• Benzo(b)fluoranthene	63,000 ppb
• Bis(2-ethylhexyl)phthalate	110,000 ppb
• Chrysene	69,000 ppb
• Fluoranthene	95,000 ppb
• Hexachloroethane	553,000 ppb
• Naphthalene	1,300,000 ppb
• Phenanthrene	620,000 ppb
• Phenol	59,600 ppb
• Pyrene	161,000 ppb
• Alpha BHC	220 ppb
• Delta BHC	870 ppb
• Heptachlor	650 ppb
• Dieldrin	860 ppb
• 4,4'-DDE	2,100 ppb
• 4,4'-DDD	3,200 ppb

• 4,4'-DDT	150 ppb
• Alpha Chlordane	400 ppb
• Gamma Chlordane	520 ppb
• Aluminum	28,600 ppm
• Antimony	15,600 ppm
• Arsenic	833 ppm
• Barium	1,330,000 ppm
• Cadmium	24,600 ppm
• Chromium	415,000 ppm
• Cobalt	86,400 ppm
• Copper	5,588,000 ppm
• Lead	2,660,000 ppm
• Manganese	2,090,000 ppm
• Mercury	13,200 ppm
• Nickel	270,000 ppm
• Vanadium	259,000 ppm
• Zinc	1,530,000 ppm

During the 1950's an on-Site separator pond, Plattykill Pond, received surface waste water and process water from the refinery and other tenants at the facility. Five sewer lines also discharged into the settling pond. There were two 12" pipes that ran from the pond and discharged into the Plattykill Creek until 1977. Samples in a drainage "trough" on-Site indicated the "qualitative presence of dibromo-, tribromo-, tetrabromo-, pentabromo-, hexabromo-, heptabromo-, octabromo-, nonabromo-, and decabromo-phenyl compounds", which coincide with compounds utilized-produced by WCC. Sampling of the surface waters and sediments in the Platty Kill conducted in 1977 identified many contaminants used on Site by WCC, including polybrominated biphenyls (PBBs), semivolatiles and metals.

Phase II NBSA sediment sampling and analysis conducted October through December 2007 identified the following hazardous substances associated with the Site, adjacent to Platy Kill Creek in the Kill Van Kull:

• 2,3,7,8-TCDD	956 ppt
• TPH	31,000 ppm
• Chlorobenzene	11,000 ppb
• 1,2-Dichlorobenzene	32 ppb
• 1,3-Dichlorobenzene	700 ppb
• 1,4-Dichlorobenzene	710 ppb
• Bis(2-ethylhexyl)phthalate	21,000 ppb
• Fluoranthene	18,000 ppb
• Pyrene	20,000 ppb
• Phenanthrene	45,000 ppb
• Fluorene	15,000 ppb
• Naphthalene	9,900 ppb

• N-Nitrosodiphenylamine	12,000 ppb
• PCB-126	1,330 ppb
• Total Congener PCBs	8,630,000 ppb
• 4,4'-DDD	130 ppb
• 4,4'-DDE	170 ppb
• 4,4'-DDT	73 ppb
• Total DDT (2,4' & 4,4')	407 ppb
• Alpha Chlordane	35 ppb
• Dieldrin	120 ppb*
• 2,4,5-TP	300 ppb
• 2,4-D	340 ppb
• 2,4,5-T	46 ppb
• Arsenic	70 ppm
• Barium	506 ppm
• Cadmium	17 ppm
• Chromium	507 ppm
• Copper	522 ppm
• Cyanide	4 ppm
• Lead	455 ppm
• Mercury	13 ppm
• Nickel	80 ppm
• Vanadium	91 ppm
• Zinc	712 ppm

An asterisk (*) denotes the maximum value detected in the Phase I & II study.

It should be noted that additional sampling was planned, and reportedly completed, on this Site in response to a requirement by NJDEP to further delineate the extent of dioxin contamination on-Site. As of the date of this letter that data has not been received by Tierra, and thus is not reflected herein.

The information presented in the attached chart identifies analytical data from the NBSA Phase I & Phase II sediment investigations. Samples highlighted in yellow represent values detected in the highest 20% range for all samples analyzed in the Phase I & II Study, while orange highlighting depicts values among the top 5% of samples analyzed. Red highlighting denotes the highest value found within the NBSA Phase I & II data.

In light of the previous evidence, supplemented by the most recent data identified in Remedial Investigation sampling, it is clear that hazardous substances from the White Chemical Inc. Site have been discharged to the Newark Bay Study Area. At our March 27, 2008 meeting with USEPA, we were advised that USEPA had concerns, at that time, regarding the proximity of the Site to the actual Newark Bay Study Area. However, in light of the Phase I and II sediment sampling results as reflected in the attached chart, it is clear that not only have significant contaminants of concern in the NBSA been detected on the WCC Site and in the PKC, but now

also have been detected in Kill Van Kull sediments. The Kill Van Kull is a significant tidal tributary to Newark Bay and certainly contributes Kill Van Kull sediments and contaminants of concern into Newark Bay a short distance west of this Site. In light of these conditions, the WCC Site should be viewed as eligible to receive a General Notice Letter with respect to contaminants of concern in the NBSA.

Should you have any questions on the information presented in this letter or the enclosed chart, please do not hesitate to contact us.

Sincerely,
The Intelligence Group



Dennis P. Farley

Enclosures

cc: Elizabeth Butler – EPA (w/o enclosures)
Sara Galley, Esq. – Maxus
Paul Bluestein – Tierra Solutions, Inc.
Paul W. Herring, Esq. – Andrews Kurth

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	2,3,7,8-TCDD	Units	Result Qualifiers	Total TCDD	Units	Result Qualifiers	Dioxin TEQ	Units	Result Qualifiers
Sample Location 096 - Phase II				NA			NA			NA		
KK02SED096D-01	0	0.5	ft	19.1	pg/g	-	89	pg/g	-	37.3	pg/g	-
KK02SED096D-02	0.5	1.5	ft	18	pg/g	-	98	pg/g	-	36.5	pg/g	-
KK02SED096D-03	1.5	2.5	ft	19.1	pg/g	-	88	pg/g	-	42.8	pg/g	-
KK02SED096D-04	2.5	3.5	ft	25.1	pg/g	-	96	pg/g	-	51.8	pg/g	-
KK02SED096D-05	3.5	5.5	ft	24.5	pg/g	-	97	pg/g	-	56.6	pg/g	-
KK02SED096D-06	5.5	7.5	ft	50.2	pg/g	-	124	pg/g	-	81.1	pg/g	-
KK02SED096D-07	7.5	9.5	ft	82.5	pg/g	-	199	pg/g	-	131	pg/g	-
KK02SED096D-08	9.5	11.5	ft	174	pg/g	-	174	pg/g	-	257	pg/g	-
KK02SED096D-09	11.5	13.5	ft	502	pg/g	-	680	pg/g	-	607	pg/g	-
KK02SED096D-10	13.5	15.5	ft	956	pg/g	-	1,200	pg/g	-	1,090	pg/g	-
KK02SED096D-11	15.5	17.5	ft	874	pg/g	-	1,090	pg/g	-	998	pg/g	-
KK02SED096D-12	17.5	19.5	ft	194	pg/g	-	389	pg/g	-	282	pg/g	-

LEGEND

NA = Not Analyzed

Separator/Settling Pond Sample

Sludge Sample

Highest Value Detected in Phase I and II

Top 5% of Values Detected in Phase I and II

Top 20% of Values Detected in Phase I and II

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	OCDD	Units	Result Qualifiers	2,4-D	Units	Result Qualifiers	2,4,5-T	Units	Result Qualifiers
Sample Location 096 - Phase II				NA			NA			NA		
KK02SED096D-01	0	0.5	ft	2,970	pg/g	J	37	ug/kg	G,M	-	ug/kg	U
KK02SED096D-02	0.5	1.5	ft	2,080	pg/g	J	100	ug/kg	M	-	ug/kg	P,J
KK02SED096D-03	1.5	2.5	ft	3,080	pg/g	J	160	ug/kg	P,NJ	-	ug/kg	U
KK02SED096D-04	2.5	3.5	ft	3,080	pg/g	-	82	ug/kg	G,M	-	ug/kg	U
KK02SED096D-05	3.5	5.5	ft	4,250	pg/g	-	57	ug/kg	G,M	-	ug/kg	U
KK02SED096D-06	5.5	7.5	ft	3,730	pg/g	-	94	ug/kg	P,J	-	ug/kg	U
KK02SED096D-07	7.5	9.5	ft	7,400	pg/g	-	120	ug/kg	JH	-	ug/kg	U
KK02SED096D-08	9.5	11.5	ft	12,600	pg/g	-	150	ug/kg	P,J	-	ug/kg	U
KK02SED096D-09	11.5	13.5	ft	15,400	pg/g	-	280	ug/kg	JH	26	ug/kg	B,P,JH
KK02SED096D-10	13.5	15.5	ft	21,800	pg/g	-	290	ug/kg	P, JH	21	ug/kg	G,P,JH
KK02SED096D-11	15.5	17.5	ft	17,800	pg/g	-	-	ug/kg	U	46	ug/kg	B,P,JH
KK02SED096D-12	17.5	19.5	ft	12,000	pg/g	-	340	ug/kg	P, NJ	21	ug/kg	B,P,JH

LEGEND

NA = Not Analyzed

Separator/Settling Pond Sample

Sludge Sample

Highest Value Detected In Phase I and II

Top 5% of Values Detected in Phase I and II

Top 20% of Values Detected in Phase I and II

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	2,4,5-TP	Units	Result Qualifiers	PCB-126	Units	Result Qualifiers	Total PCB Congeners	Units	Result Qualifiers
Sample Location 096 - Phase II				NA			NA			NA		
KK02SED096D-01	0	0.5	ft	-	ug/kg	R	87	pg/g	-	515,000	pg/g	-
KK02SED096D-02	0.5	1.5	ft	17	ug/kg	P,J	97	pg/g	D	520,000	pg/g	-
KK02SED096D-03	1.5	2.5	ft	26	ug/kg	P,NJ	108	pg/g	D	671,000	pg/g	-
KK02SED096D-04	2.5	3.5	ft	35	ug/kg	M	122	pg/g	D	804,000	pg/g	-
KK02SED096D-05	3.5	5.5	ft	14	ug/kg	P,NJ	125	pg/g	D	891,000	pg/g	-
KK02SED096D-06	5.5	7.5	ft	-	ug/kg	R	136	pg/g	D	930,000	pg/g	-
KK02SED096D-07	7.5	9.5	ft	35	ug/kg	P,NJ	255	pg/g	D	2,130,000	pg/g	-
KK02SED096D-08	9.5	11.5	ft	25	ug/kg	PNJ	633	pg/g	D,J	5,240,000	pg/g	-
KK02SED096D-09	11.5	13.5	ft	34	ug/kg	D,G,JH	1,120	pg/g	D	8,630,000	pg/g	-
KK02SED096D-10	13.5	15.5	ft	45	ug/kg	P,NJ	1,330	pg/g	D	7,780,000	pg/g	-
KK02SED096D-11	15.5	17.5	ft	300	ug/kg	D,E,P,JH	1,180	pg/g	D	6,340,000	pg/g	-
KK02SED096D-12	17.5	19.5	ft	41	ug/kg	P, NJ	781	pg/g	D	426,000	pg/g	-

LEGEND	
NA = Not Analyzed	
Separator/Settling Pond Sample	
Sludge Sample	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	4,4-DDD	Units	Result Qualifiers	4,4-DDE	Units	Result Qualifiers	4,4-DDT	Units	Result Qualifiers
Sample Location 096 - Phase II				83,000	ug/kg		0.021	ug/kg		150	ug/kg	
KK02SED096D-01	0	0.5	ft	6.2	ug/kg	G, M	9.4	ug/kg	M	-	ug/kg	U
KK02SED096D-02	0.5	1.5	ft	6.2	ug/kg	G, M	-	ug/kg	U	-	ug/kg	U
KK02SED096D-03	1.5	2.5	ft	5.4	ug/kg	G, M	12	ug/kg	M	-	ug/kg	U
KK02SED096D-04	2.5	3.5	ft	7.4	ug/kg	G, M	16	ug/kg	M	11	ug/kg	P,J
KK02SED096D-05	3.5	5.5	ft	7.3	ug/kg	G, M	19	ug/kg	M	-	ug/kg	U
KK02SED096D-06	5.5	7.5	ft	5.8	ug/kg	G, M	20	ug/kg	M	-	ug/kg	U
KK02SED096D-07	7.5	9.5	ft	11	ug/kg	M	31	ug/kg	P,J	21	ug/kg	P,J
KK02SED096D-08	9.5	11.5	ft	22	ug/kg	M	39	ug/kg	P,J	9.2	ug/kg	P,NJ
KK02SED096D-09	11.5	13.5	ft	64	ug/kg	M	110	ug/kg	M	31	ug/kg	P,NJ
KK02SED096D-10	13.5	15.5	ft	75	ug/kg	M	110	ug/kg	M	37	ug/kg	P,NJ
KK02SED096D-11	15.5	17.5	ft	130	ug/kg	DM	170	ug/kg	DM	73	ug/kg	M
KK02SED096D-12	17.5	19.5	ft	41	ug/kg	M	140	ug/kg	DM	19	ug/kg	P,NJ

LEGEND	
NA = Not Analyzed	
Separator/Settling Pond Sample	
Sludge Sample	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Total DDT 2,4 and 4-4	Units	Result Qualifiers	Alpha BHC	Units	Result Qualifiers	Delta BHC	Units	Result Qualifiers
Sample Location 096 - Phase II				NA			220	ug/kg		870	ug/kg	
KK02SED096D-01	0	0.5	ft	15.6	ug/kg	-	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-02	0.5	1.5	ft	3.2	ug/kg	-	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-03	1.5	2.5	ft	17.4	ug/kg	-	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-04	2.5	3.5	ft	34.4	ug/kg	J	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-05	3.5	5.5	ft	32.5	ug/kg	J	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-06	5.5	7.5	ft	32	ug/kg	J	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-07	7.5	9.5	ft	73	ug/kg	J	-	ug/kg	U,M	-	ug/kg	U,M
KK02SED096D-08	9.5	11.5	ft	94.5	ug/kg	J	-	ug/kg	U	-	ug/kg	U
KK02SED096D-09	11.5	13.5	ft	263	ug/kg	J	-	ug/kg	U	-	ug/kg	U
KK02SED096D-10	13.5	15.5	ft	275	ug/kg	J	-	ug/kg	U	-	ug/kg	U
KK02SED096D-11	15.5	17.5	ft	407	ug/kg	J	-	ug/kg	U	-	ug/kg	U
KK02SED096D-12	17.5	19.5	ft	247	ug/kg	J	-	ug/kg	U,M	-	ug/kg	U,M

LEGEND

NA = Not Analyzed

Separator/Settling Pond Sample

Sludge Sample

Highest Value Detected in Phase I and II

Top 5% of Values Detected in Phase I and II

Top 20% of Values Detected in Phase I and II

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Alpha Chlordane	Units	Result Qualifiers	Dieldrin	Units	Result Qualifiers	Chlorobenzene	Units	Result Qualifiers
Sample Location 096 - Phase II				NA			860	ug/kg		3,900,000		ug/kg
KK02SED096D-01	0	0.5	ft	1.4	ug/kg	G,M	3	ug/kg	G,P,J	-	ug/kg	U,M
KK02SED096D-02	0.5	1.5	ft	-	ug/kg	U	3.2	ug/kg	G,M	-	ug/kg	U,M
KK02SED096D-03	1.5	2.5	ft	0.96	ug/kg	G,M	-	ug/kg	U	-	ug/kg	U,M
KK02SED096D-04	2.5	3.5	ft	-	ug/kg	U	-	ug/kg	U	-	ug/kg	U,M
KK02SED096D-05	3.5	5.5	ft	0.97	ug/kg	G,M	4.4	ug/kg	G,P,J	-	ug/kg	U,M
KK02SED096D-06	5.5	7.5	ft	1.2	ug/kg	G,P,J	5.3	ug/kg	G,P,J	-	ug/kg	U,M
KK02SED096D-07	7.5	9.5	ft	-	ug/kg	U	11	ug/kg	P,J	-	ug/kg	U,M
KK02SED096D-08	9.5	11.5	ft	7	ug/kg	P,NJ	22	ug/kg	M	-	ug/kg	U,J
KK02SED096D-09	11.5	13.5	ft	19	ug/kg	PJ	91	ug/kg	M	380	ug/kg	J
KK02SED096D-10	13.5	15.5	ft	18	ug/kg	PJ	79	ug/kg	M	11,000	ug/kg	M
KK02SED096D-11	15.5	17.5	ft	35	ug/kg	PJ	120	ug/kg	DM	570	ug/kg	M
KK02SED096D-12	17.5	19.5	ft	13	ug/kg	M	85	ug/kg	M	18	ug/kg	M
							Top 3 data points					

LEGEND	
NA = Not Analyzed	
Separator/Settling Pond Sample	
Sludge Sample	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	1,2-Dichlorobenzene	Units	Result Qualifiers	1,3-Dichlorobenzene	Units	Result Qualifiers	1,4-Dichlorobenzene	Units	Result Qualifiers
Sample Location 096 - Phase II				2,839,000	ug/kg		NA			801,000	ug/kg	
KK02SED096D-01	0	0.5	ft	-	ug/kg	U,M	-	ug/kg	UM	-	ug/kg	U,M
KK02SED096D-02	0.5	1.5	ft	-	ug/kg	U,M	-	ug/kg	UM	-	ug/kg	U,M
KK02SED096D-03	1.5	2.5	ft	-	ug/kg	U,M	-	ug/kg	UM	-	ug/kg	U,M
KK02SED096D-04	2.5	3.5	ft	-	ug/kg	U,M	-	ug/kg	UM	-	ug/kg	U,M
KK02SED096D-05	3.5	5.5	ft	-	ug/kg	U,M	-	ug/kg	UM	-	ug/kg	U,M
KK02SED096D-06	5.5	7.5	ft	-	ug/kg	U,M	-	ug/kg	UM	-	ug/kg	U,M
KK02SED096D-07	7.5	9.5	ft	-	ug/kg	UJ	-	ug/kg	UM	37	ug/kg	J
KK02SED096D-08	9.5	11.5	ft	-	ug/kg	U,M	20	ug/kg	J	280	ug/kg	G,J
KK02SED096D-09	11.5	13.5	ft	-	ug/kg	U,M	280	ug/kg	G,JH	560	ug/kg	G,JH
KK02SED096D-10	13.5	15.5	ft	-	ug/kg	U,M	700	ug/kg	G,M	710	ug/kg	G,M
KK02SED096D-11	15.5	17.5	ft	32	ug/kg	J	26	ug/kg	J	39	ug/kg	J
KK02SED096D-12	17.5	19.5	ft	-	ug/kg	U,M	-	ug/kg	U	-	ug/kg	U,M

LEGEND	
NA = Not Analyzed	
Separator/Settling Pond Sample	
Sludge Sample	
Highest Value Detected In Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Bis(2-ethylhexyl)phthalate	Units	Result Qualifiers	2-Chloronaphthalene	Units	Result Qualifiers	Fluoranthene	Units	Result Qualifiers
Sample Location 096 - Phase II				110,000			130,000			90,000		
KK02SED096D-01	0	0.5	ft	1,800	ug/kg	M	-	ug/kg	U,M	1,600	ug/kg	M
KK02SED096D-02	0.5	1.5	ft	1,600	ug/kg	M	-	ug/kg	U,M	1,300	ug/kg	M
KK02SED096D-03	1.5	2.5	ft	1,700	ug/kg	M	-	ug/kg	U,M	930	ug/kg	M
KK02SED096D-04	2.5	3.5	ft	3,200	ug/kg	M	-	ug/kg	U,M	1,400	ug/kg	M
KK02SED096D-05	3.5	5.5	ft	3,700	ug/kg	M	-	ug/kg	U,M	1,600	ug/kg	M
KK02SED096D-06	5.5	7.5	ft	8,300	ug/kg	D,M	-	ug/kg	U,D,M	1,800	ug/kg	D,M
KK02SED096D-07	7.5	9.5	ft	18,000	ug/kg	D,M	-	ug/kg	U,D,M	3,400	ug/kg	D,M
KK02SED096D-08	9.5	11.5	ft	21,000	ug/kg	D,M	-	ug/kg	U,D,M	5,400	ug/kg	D,M
KK02SED096D-09	11.5	13.5	ft	15,000	ug/kg	D,M	-	ug/kg	U,D,M	9,300	ug/kg	D,M
KK02SED096D-10	13.5	15.5	ft	14,000	ug/kg	D,M	-	ug/kg	U,D,M	16,000	ug/kg	D,M
KK02SED096D-11	15.5	17.5	ft	11,000	ug/kg	D,M	-	ug/kg	U,D,M	18,000	ug/kg	D,M
KK02SED096D-12	17.5	19.5	ft	4,300	ug/kg	D,M	-	ug/kg	U,D,M	3,800	ug/kg	D,M

LEGEND

NA = Not Analyzed

Separator/Settling Pond Sample

Sludge Sample

Highest Value Detected in Phase I and II

Top 5% of Values Detected in Phase I and II

Top 20% of Values Detected in Phase I and II

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Pyrene	Units	Result Qualifiers	Phenanthrene	Units	Result Qualifiers	Fluorene	Units	Result Qualifiers
Sample Location 096 - Phase II				161,000	ug/kg		620,000	ug/kg		212,000	ug/kg	
KK02SED096D-01	0	0.5	ft	1,000	ug/kg	M	950	ug/kg	M	220	ug/kg	M
KK02SED096D-02	0.5	1.5	ft	1,200	ug/kg	M	380	ug/kg	G,M	54	ug/kg	M
KK02SED096D-03	1.5	2.5	ft	800	ug/kg	M	220	ug/kg	G,M	38	ug/kg	M
KK02SED096D-04	2.5	3.5	ft	1,100	ug/kg	M	280	ug/kg	G,M	53	ug/kg	M
KK02SED096D-05	3.5	5.5	ft	1,100	ug/kg	M	340	ug/kg	G,M	826	ug/kg	G,M
KK02SED096D-06	5.5	7.5	ft	1,100	ug/kg	D,M	500	ug/kg	D,M	120	ug/kg	G,D,M
KK02SED096D-07	7.5	9.5	ft	2,100	ug/kg	D,M	2,200	ug/kg	D,M	710	ug/kg	G,D,M
KK02SED096D-08	9.5	11.5	ft	3,200	ug/kg	D,M	6,700	ug/kg	D,M	2,100	ug/kg	D,M
KK02SED096D-09	11.5	13.5	ft	6,100	ug/kg	D,M	14,000	ug/kg	D,M	4,300	ug/kg	D,M
KK02SED096D-10	13.5	15.5	ft	14,000	ug/kg	D,M	32,000	ug/kg	D,M	10,000	ug/kg	D,M
KK02SED096D-11	15.5	17.5	ft	20,000	ug/kg	D,M	45,000	ug/kg	D,M	16,000	ug/kg	D,M
KK02SED096D-12	17.5	19.5	ft	5,100	ug/kg	D,M	7,700	ug/kg	D,M	2,500	ug/kg	D,M

LEGEND	
NA = Not Analyzed	
Separator/Settling Pond Sample	
Sludge Sample	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Naphthalene	Units	Result Qualifiers	TPH	Units	Result Qualifiers	Arsenic	Units	Result Qualifiers
Sample Location 096 - Phase II				1,300,000	ug/kg		230,000	mg/kg		0.00833	mg/kg	
KK02SED096D-01	0	0.5	ft	160	ug/kg	G,M	11,000	mg/kg	B, D, M	12.6	mg/kg	M
KK02SED096D-02	0.5	1.5	ft	110	ug/kg	G,M	1,400	mg/kg	B, D, M	13.6	mg/kg	M
KK02SED096D-03	1.5	2.5	ft	72	ug/kg	B,M	1,200	mg/kg	B, D, M	13.9	mg/kg	M
KK02SED096D-04	2.5	3.5	ft	82	ug/kg	G,M	1,900	mg/kg	B, D, M	16	mg/kg	M
KK02SED096D-05	3.5	5.5	ft	93	ug/kg	G,M	2,000	mg/kg	B, D, M	15.3	mg/kg	M
KK02SED096D-06	5.5	7.5	ft	97	ug/kg	B,D,M	3,400	mg/kg	B, D, M	16.2	mg/kg	M
KK02SED096D-07	7.5	9.5	ft	290	ug/kg	G,D,M	5,600	mg/kg	B, D, M	20.1	mg/kg	M
KK02SED096D-08	9.5	11.5	ft	790	ug/kg	G,D,M	11,000	mg/kg	B, D, M	30.2	mg/kg	M
KK02SED096D-09	11.5	13.5	ft	2,300	ug/kg	D,M	16,000	mg/kg	B, D, M	48.5	mg/kg	M
KK02SED096D-10	13.5	15.5	ft	5,300	ug/kg	D,M	28,000	mg/kg	B, D, M	62.5	mg/kg	M
KK02SED096D-11	15.5	17.5	ft	9,900	ug/kg	D,M	31,000	mg/kg	B, D, M	69.6	mg/kg	M
KK02SED096D-12	17.5	19.5	ft	2,800	ug/kg	D,M	19,000	mg/kg	B, D, M	41.6	mg/kg	M

LEGEND	
NA = Not Analyzed	
Separator/Settling Pond Sample	
Sludge Sample	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Antimony	Units	Result Qualifiers	Barium	Units	Result Qualifiers	Cadmium	Units	Result Qualifiers
Sample Location 096 - Phase II				NA			1,060	mg/kg		24.6	mg/kg	
KK02SED096D-01	0	0.5	ft	-	mg/kg	N, UJL	82.1	mg/kg	E, * J	1.1	mg/kg	M
KK02SED096D-02	0.5	1.5	ft	-	mg/kg	N, UJL	98.1	mg/kg	E, * J	1.3	mg/kg	M
KK02SED096D-03	1.5	2.5	ft	-	mg/kg	N, UJL	86.4	mg/kg	E, * J	1.3	mg/kg	M
KK02SED096D-04	2.5	3.5	ft	-	mg/kg	N, UJL	109	mg/kg	E, * J	2	mg/kg	M
KK02SED096D-05	3.5	5.5	ft	-	mg/kg	N, UJL	116	mg/kg	E, * J	2.5	mg/kg	M
KK02SED096D-06	5.5	7.5	ft	-	mg/kg	N, UJL	136	mg/kg	E, * J	2.5	mg/kg	M
KK02SED096D-07	7.5	9.5	ft	-	mg/kg	N, UJL	112	mg/kg	E, * J	5.8	mg/kg	M
KK02SED096D-08	9.5	11.5	ft	-	mg/kg	N, UJL	170	mg/kg	E, * J	9.2	mg/kg	M
KK02SED096D-09	11.5	13.5	ft	-	mg/kg	N, UJL	389	mg/kg	E, * J	1.64	mg/kg	M
KK02SED096D-10	13.5	15.5	ft	-	mg/kg	N, UJL	506	mg/kg	E, * J	17.1	mg/kg	M
KK02SED096D-11	15.5	17.5	ft	-	mg/kg	N, UJL	233	mg/kg	E, * J	15.4	mg/kg	M
KK02SED096D-12	17.5	19.5	ft	-	mg/kg	N, UJL	187	mg/kg	E, * J	8.8	mg/kg	M

LEGEND	
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Separator/Settling Pond Sample	
Sludge Sample	
Highest Value Detected in Phase I and II	
Top 5% of Values Detected in Phase I and II	
Top 20% of Values Detected in Phase I and II	

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Chromium	Units	Result Qualifiers	Copper	Units	Result Qualifiers	Cyanide	Units	Result Qualifiers
Sample Location 096 - Phase II				415	mg/kg		5,588	mg/kg		NA		
KK02SED096D-01	0	0.5	ft	81.2	mg/kg	M	96.2	mg/kg	M	-	mg/kg	N,UJL
KK02SED096D-02	0.5	1.5	ft	87.2	mg/kg	M	110	mg/kg	M	-	mg/kg	N,UJL
KK02SED096D-03	1.5	2.5	ft	92.2	mg/kg	M	115	mg/kg	M	-	mg/kg	N,UJL
KK02SED096D-04	2.5	3.5	ft	125	mg/kg	M	165	mg/kg	M	-	mg/kg	N,UJL
KK02SED096D-05	3.5	5.5	ft	135	mg/kg	M	183	mg/kg	M	-	mg/kg	N,UJL
KK02SED096D-06	5.5	7.5	ft	135	mg/kg	M	172	mg/kg	M	-	mg/kg	N,UJL
KK02SED096D-07	7.5	9.5	ft	190	mg/kg	M	237	mg/kg	M	0.31	mg/kg	B,N,JL
KK02SED096D-08	9.5	11.5	ft	301	mg/kg	M	361	mg/kg	M	0.91	mg/kg	B,N,JL
KK02SED096D-09	11.5	13.5	ft	488	mg/kg	M	478	mg/kg	M	2	mg/kg	B,N,JL
KK02SED096D-10	13.5	15.5	ft	493	mg/kg	M	522	mg/kg	M	4	mg/kg	N,JL
KK02SED096D-11	15.5	17.5	ft	507	mg/kg	M	504	mg/kg	M	2.5	mg/kg	B,N,JL
KK02SED096D-12	17.5	19.5	ft	391	mg/kg	M	386	mg/kg	M	1.8	mg/kg	B,N,JL

LEGEND	
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Separator/Settling Pond Sample	
Sludge Sample	
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WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Lead	Units	Result Qualifiers	Mercury	Units	Result Qualifiers	Nickel	Units	Result Qualifiers
Sample Location 096 - Phase II				26,600	mg/kg		13.2	mg/kg		234	mg/kg	
KK02SED096D-01	0	0.5	ft	104	mg/kg	E, *, J	0.77	mg/kg	D, B, M	39.9	mg/kg	N,E,*,JL
KK02SED096D-02	0.5	1.5	ft	120	mg/kg	E, *, J	1.5	mg/kg	D, B, M	72.2	mg/kg	N,E,*,JL
KK02SED096D-03	1.5	2.5	ft	122	mg/kg	E, *, J	1.6	mg/kg	D, B, M	40.1	mg/kg	N,E,*,JL
KK02SED096D-04	2.5	3.5	ft	159	mg/kg	E, *, J	2.5	mg/kg	D, M	46.8	mg/kg	N,E,*,JL
KK02SED096D-05	3.5	5.5	ft	164	mg/kg	E, *, J	2.3	mg/kg	D, M	80.6	mg/kg	N,E,*,JL
KK02SED096D-06	5.5	7.5	ft	156	mg/kg	E, *, J	2.7	mg/kg	D, M	39.2	mg/kg	N,E,*,JL
KK02SED096D-07	7.5	9.5	ft	230	mg/kg	E, *, J	5.2	mg/kg	D, M	50	mg/kg	N,E,*,JL
KK02SED096D-08	9.5	11.5	ft	322	mg/kg	E, *, J	7.4	mg/kg	D, M	56.4	mg/kg	N,E,*,JL
KK02SED096D-09	11.5	13.5	ft	417	mg/kg	E, *, J	10.8	mg/kg	D, M	77	mg/kg	N,E,*,JL
KK02SED096D-10	13.5	15.5	ft	464	mg/kg	E, *, J	14.1	mg/kg	D, M	74.1	mg/kg	N,E,*,JL
KK02SED096D-11	15.5	17.5	ft	455	mg/kg	E, *, J	12.7	mg/kg	D, M	71.9	mg/kg	N,E,*,JL
KK02SED096D-12	17.5	19.5	ft	405	mg/kg	E, *, J	6.9	mg/kg	D, M	54.9	mg/kg	N,E,*,JL

LEGEND	
NA = Not Analyzed	
Separator/Settling Pond Sample	
Sludge Sample	
Highest Value Detected In Phase I and II	
Top 5% of Values Detected In Phase I and II	
Top 20% of Values Detected in Phase I and II	

WHITE CHEMICAL COMPANY
Bayonne
NBSA RI Sediment Analytical Data

Sample Name	Depth Start	Depth End	Depth Units	Silver	Units	Result Qualifiers	Vanadium	Units	Result Qualifiers	Zinc	Units	Result Qualifiers
Sample Location 096 - Phase II				NA			176	mg/kg		1,110	mg/kg	
KK02SED096D-01	0	0.5	ft	1.9	mg/kg	B,N,JL	41.6	mg/kg	M	205	mg/kg	E, *, J
KK02SED096D-02	0.5	1.5	ft	2.9	mg/kg	N,JL	42.8	mg/kg	M	241	mg/kg	E, *, J
KK02SED096D-03	1.5	2.5	ft	3.3	mg/kg	N,JL	45.9	mg/kg	M	240	mg/kg	E, *, J
KK02SED096D-04	2.5	3.5	ft	4.9	mg/kg	N,JL	49.6	mg/kg	GM	282	mg/kg	E, *, J
KK02SED096D-05	3.5	5.5	ft	5.1	mg/kg	N,JL	46.2	mg/kg	M	292	mg/kg	E, *, J
KK02SED096D-06	5.5	7.5	ft	5.3	mg/kg	N,JL	46.1	mg/kg	M	296	mg/kg	E, *, J
KK02SED096D-07	7.5	9.5	ft	6.4	mg/kg	N,JL	47.5	mg/kg	M	361	mg/kg	E, *, J
KK02SED096D-08	9.5	11.5	ft	8.6	mg/kg	N,JL	56.6	mg/kg	M	548	mg/kg	E, *, J
KK02SED096D-09	11.5	13.5	ft	12	mg/kg	N,JL	81.1	mg/kg	M	712	mg/kg	E, *, J
KK02SED096D-10	13.5	15.5	ft	12.8	mg/kg	N,JL	90.2	mg/kg	M	655	mg/kg	E, *, J
KK02SED096D-11	15.5	17.5	ft	12.4	mg/kg	N,JL	80.9	mg/kg	M	677	mg/kg	E, *, J
KK02SED096D-12	17.5	19.5	ft	10.5	mg/kg	N,JL	81.9	mg/kg	M	492	mg/kg	E, *, J

LEGEND	
NA = Not Analyzed	
Separator/Settling Pond Sample	
Sludge Sample	
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